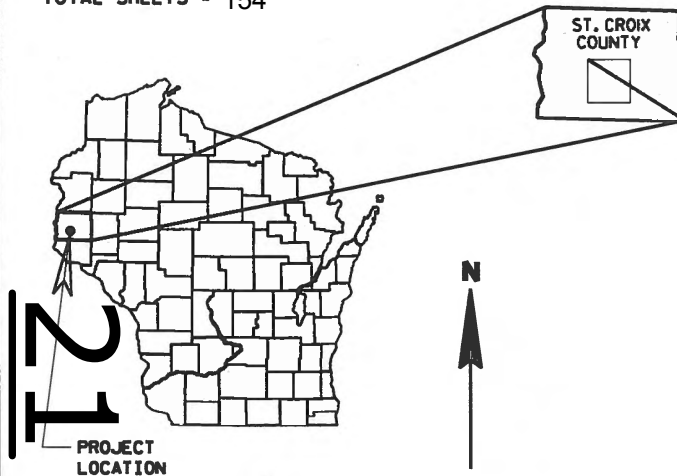


ORDER OF SHEETS

Section No. 1	Title
Section No. 2	Typical Sections and Details (Includes Erosion Control Plans)
Section No. 3	Estimate of Quantities
Section No. 3	Miscellaneous Quantities
Section No. 4	Right of Way Plat
Section No. 5	Plan and Profile
Section No. 6	Standard Detail Drawings
Section No. 7	Sign Plates
Section No. 8	Structure Plans
Section No. 9	Computer Earthwork Data
Section No. 9	Cross Sections

TOTAL SHEETS = 154



DESIGN DESIGNATION	CTH J	IH 94
A.D.T. (2016)	= 550	36,500
A.D.T. (2036)	= 770	44,900
D.H.V.	= 60	3,650
D.	= 50/50	60/40
T.	= 5%	21.6%
DESIGN SPEED	= 50 MPH	70 MPH
ESALS	= 211,700	N/A

CONVENTIONAL SYMBOLS
PLAN

CORPORATE LIMITS	
PROPERTY LINE	
LOT LINE	
LIMITED HIGHWAY EASEMENT	
EXISTING RIGHT OF WAY	
PROPOSED OR NEW R/W LINE	
SLOPE INTERCEPT	
REFERENCE LINE	
EXISTING CULVERT	
PROPOSED CULVERT (Box or Pipe)	
COMBUSTIBLE FLUIDS	
HIGH VOLTAGE	
MARSH AREA	
WOODED OR SHRUB AREA	

PROFILE	
GRADE LINE	
ORIGINAL GROUND	
MARSH OR ROCK PROFILE (To be noted as such)	
SPECIAL DITCH	
GRADE ELEVATION	
CULVERT (Profile View)	
UTILITIES	
OVERHEAD	
ELECTRIC	
FIBER OPTIC	
GAS	
SANITARY SEWER	
STORM SEWER	
TELEPHONE	
WATER	
UTILITY PEDESTAL	
POWER POLE	
TELEPHONE POLE	

T-29-N
T-28-N

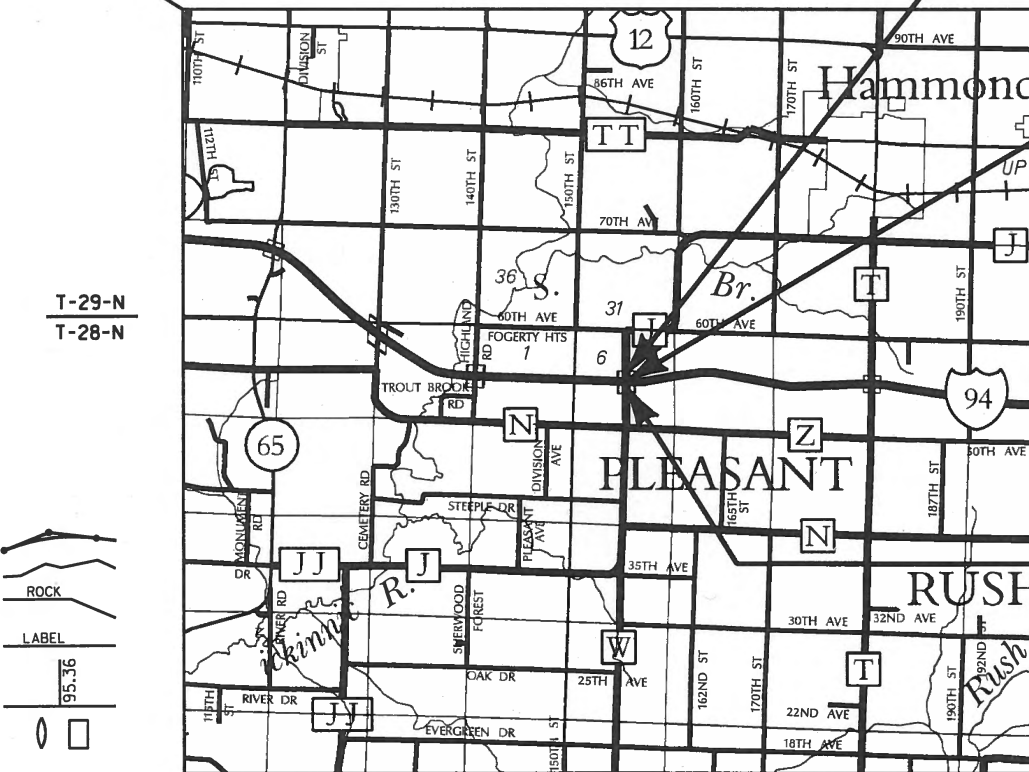
ROCK	
LABEL	
95.36	
OH	
E	
FO	
G	
SAN	
SS	
T	
W	
X	
Y	

R-18-W R-17-W

LAYOUT

SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.388 MI.



END PROJECT

STA. 30+00
Y = 331154.01
X = 581029.97

STRUCTURE B-55-0259

BEGIN PROJECT

STA. 9+50
Y = 329105.08
X = 581096.18COORDINATES ON THIS PLAN ARE REFERENCED TO
THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS),
ST. CROIX COUNTY

STATE PROJECT

1020-01-83

FEDERAL PROJECT

PROJECT

WISC 2015649

CONTRACT

1

ORIGINAL PLANS PREPARED BY

AYRES
ASSOCIATES3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

DATE

7/31/2015

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

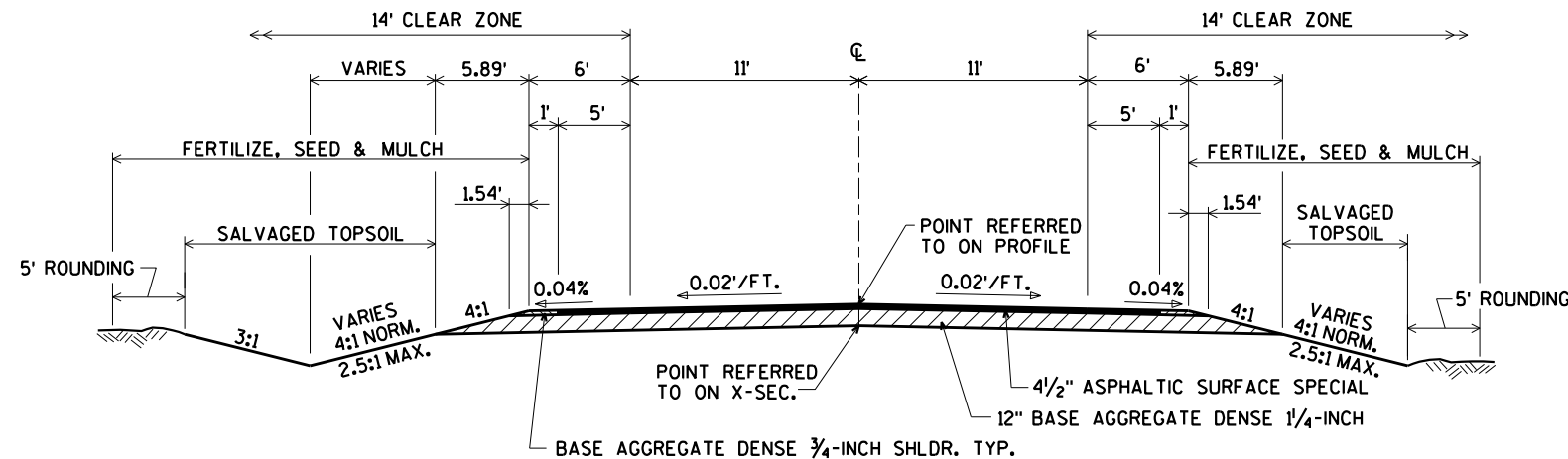
PREPARED BY

Surveyor	AYRES ASSOCIATES INC
Designer	AYRES ASSOCIATES INC
Project Manager	STACE LAMBELE
Regional Examiner	CHRISTINE KOSKI
Regional Supervisor	RICHARD SHERMO
C.O. Examiner	

APPROVED FOR THE DEPARTMENT

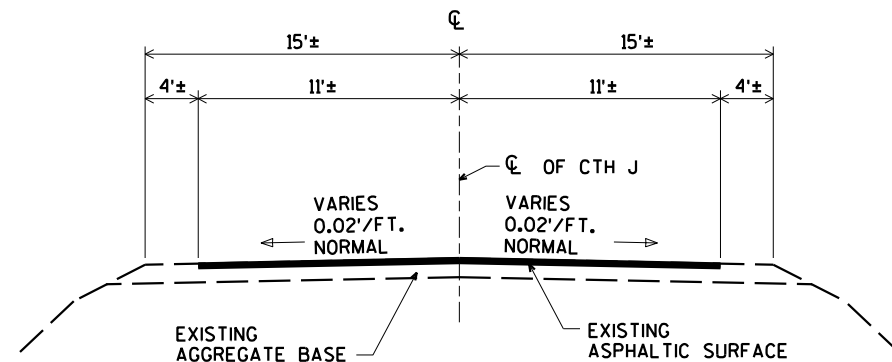
DATE: 7/30/15 
Signature

E



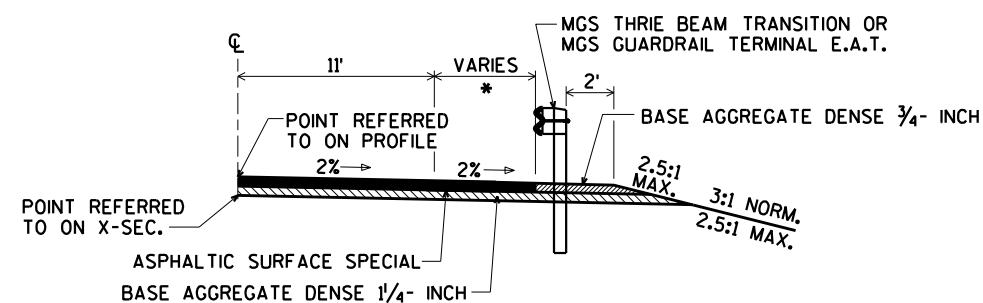
TYPICAL FINISHED SECTION

CTH J
STA. 9+50 TO STA. 30+00



EXISTING TYPICAL SECTION

CTH J
STA. 9+50 TO STA. 30+00



TYPICAL FINISHED HALF SECTION WITH BEAM GUARD

* 6' NORMAL
5' MIN. (AT END OF BRIDGE)
8' MAX. (AT END TERMINAL)

GENERAL NOTES

EROSION CONTROL ITEMS TO BE PLACED AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER.

NO TREES AND/OR SHRUBS ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

THE DEPARTMENT OF TRANSPORTATION WILL FURNISH THE CONTRACTOR WITH A MONUMENT TO BE INSTALLED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCLUSIVE OF THE ROADBED, SHALL BE FERTILIZED, SEEDED, AND MULCHED AS DIRECTED BY THE ENGINEER.

SEED MIXTURE NO. 20 AND SEEDING TEMPORARY SHALL BE USED IN THE PROJECT AND SHALL BE PLACED AS SHOWN IN THE PLANS AND/OR AS DIRECTED BY THE ENGINEER.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM (NAVD) 1988.

ASPHALTIC SURFACE SPECIAL SHALL BE CONSTRUCTED WITH A 2" UPPER LAYER AND A 2 1/2" LOWER LAYER.

UTILITIES

WE ENERGIES
104 W. SOUTH ST.
RICE LAKE, WI 54868
ATTN: LEWIS KNAPP
715-234-9605
715-419-2196 (cell)
lewis.knapp@we-energies.com

ST. CROIX ELECTRIC COOPERATIVE
1925 RIDGEWAY ST.
HAMMOND, WI 54015-5039
ATTN: ROB DOOLEY
715-796-5637
715-781-2295 (cell)
robdoole@sccecnet.net

LEVEL 3 COMMUNICATIONS LLC
715 N 2nd STREET
MINNEAPOLIS, MN 55401
ATTN: BRAD MORSETH
608-343-3257
608-805-9479 (cell)
brad.morseth@level3.com

CENTURYLINK COMMUNICATIONS
1310 E. MARY STREET
OTTUMWA, IA 52501
ATTN: BOB SAMPSON
636-887-5367 (cell)
robert.sampson@centurylink.com

CENTURYLINK INC.
20 S. WILSON AVE.
RICE LAKE, WI 54868
ATTN: BRUCE LARSON
715-234-5573
bruce.larson@centurylink.com

AT&T LEGACY
P.O. BOX 244
LAKE MILLS, WI 53551
ATTN: WILLIAM KOENIG, JMC ENGINEERS
608-628-0575 (cell)
jmc140@frontier.com

** DENOTES UTILITIES THAT ARE NOT DIGGERS HOTLINE MEMBERS

DIGGERS HOTLINE

Dial **811** or (800)242-8511

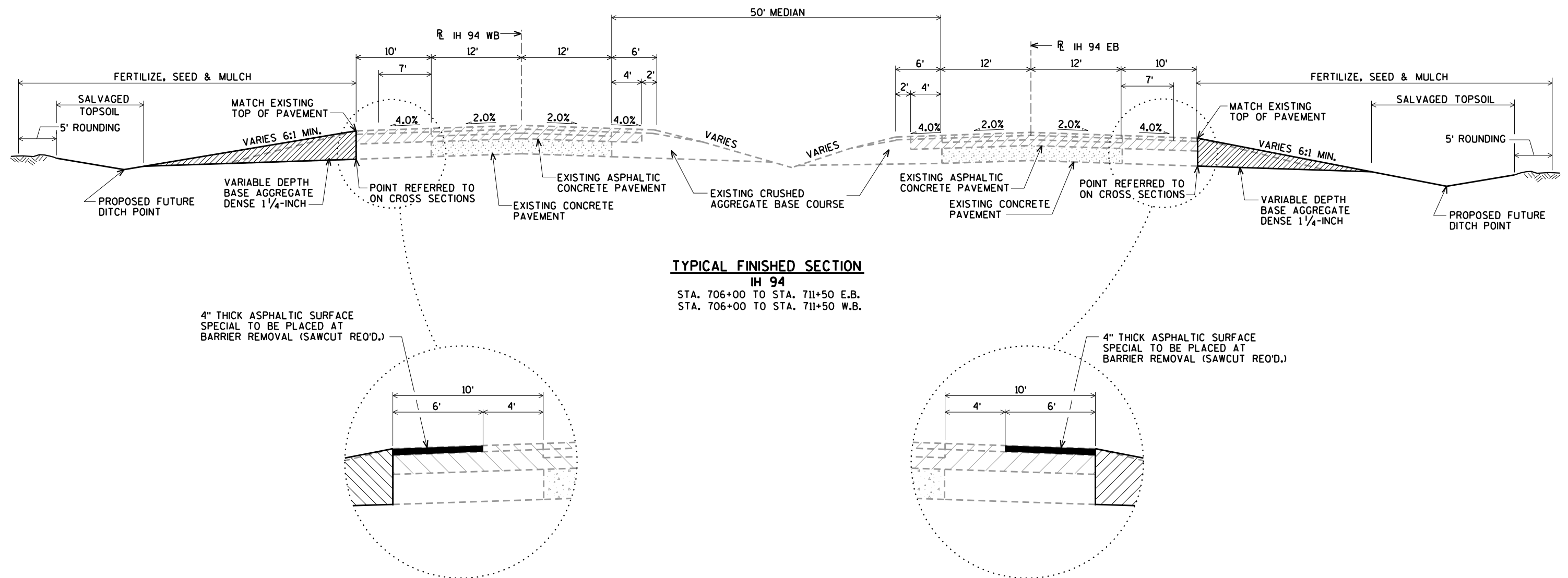
www.DiggersHotline.com

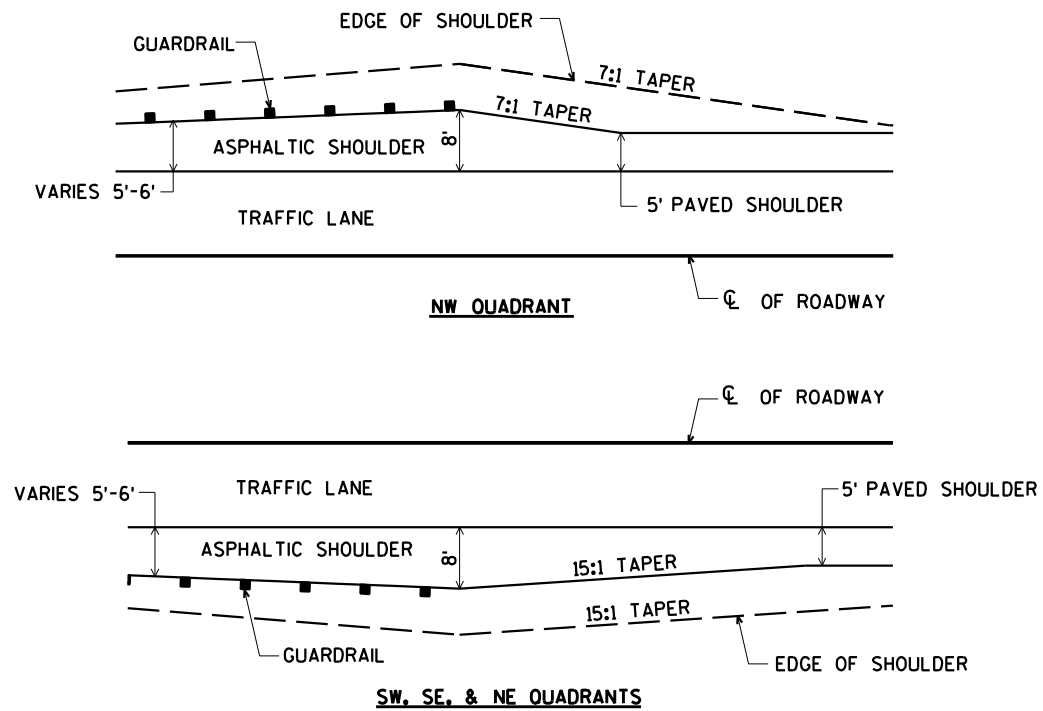
DESIGNER

AYRES ASSOCIATES
3433 OAKWOOD HILLS PARKWAY
EAU CLAIRE, WI 54701
ATTN: DANIEL N. SYDOW
715-834-3161
sydowd@AyresAssociates.com

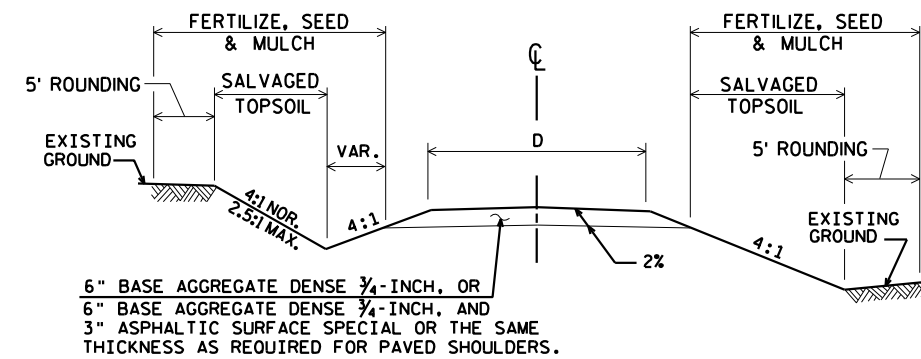
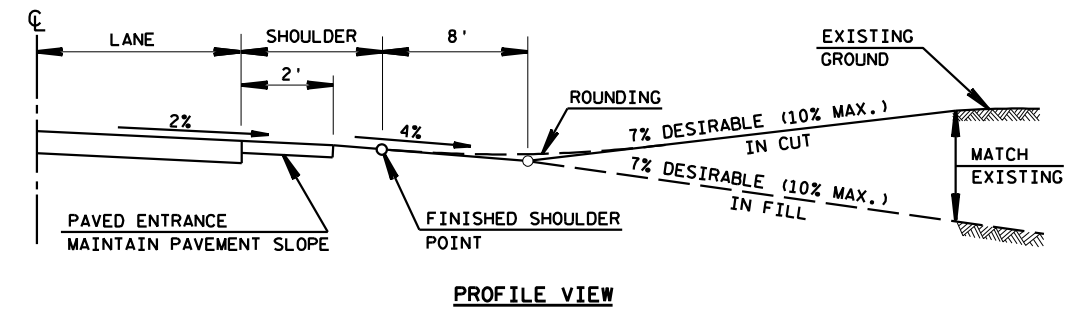
WISCONSIN DEPARTMENT OF NATURAL RESOURCES CONTACT:

CHRIS WILLGER
1300 W. CLAIREMONT AVE.
EAU CLAIRE, WI. 54702
715-839-1609
christopher.j.willger@wisconsin.gov

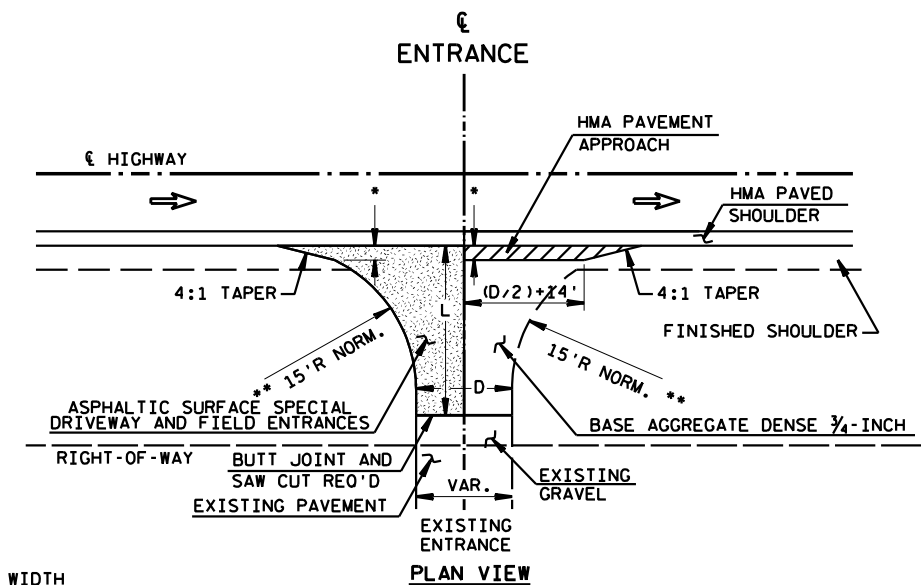




DETAIL FOR ASPHALTIC SHOULDER AT GUARDRAIL



TYPICAL CROSS SECTION

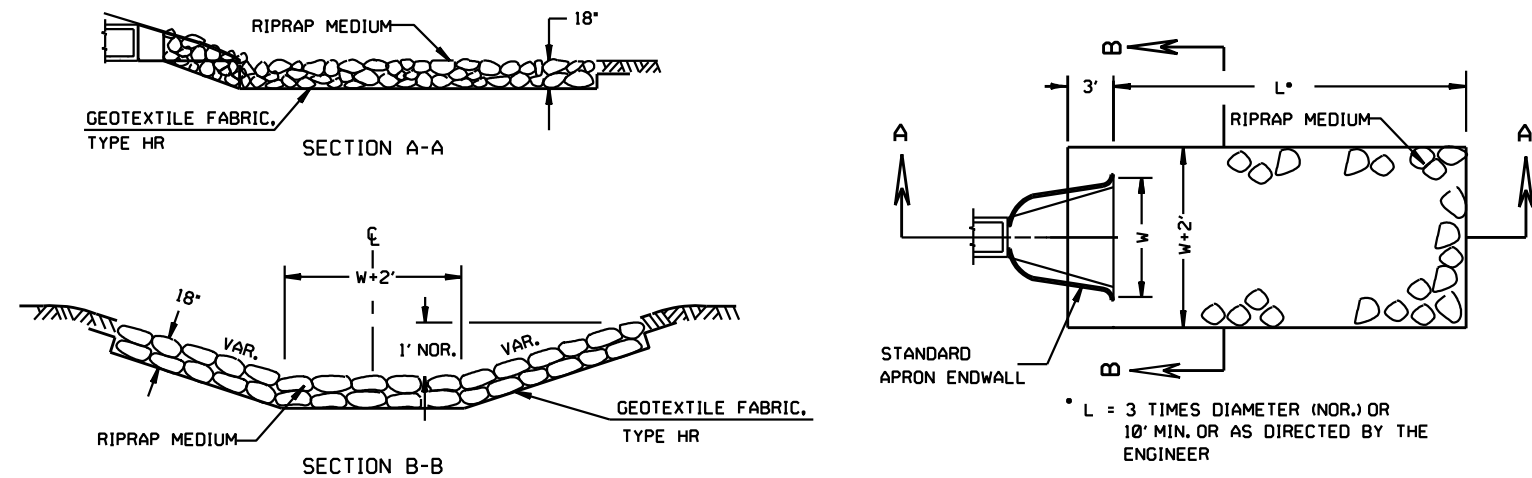


D=DRIVEWAY WIDTH
D=20' TYP. (PE's & FE's) (16' MIN.-24' MAX.)
D=28' TYP. (CE's & FARM ENT.) (24' MIN.-35' MAX.)

L=VARIABLE, EXACT LENGTH TO BE DETERMINED IN THE FIELD BY THE ENGINEER. BLEND BACK ON THE ENTRANCE FAR ENOUGH TO GET A SMOOTH PROFILE.

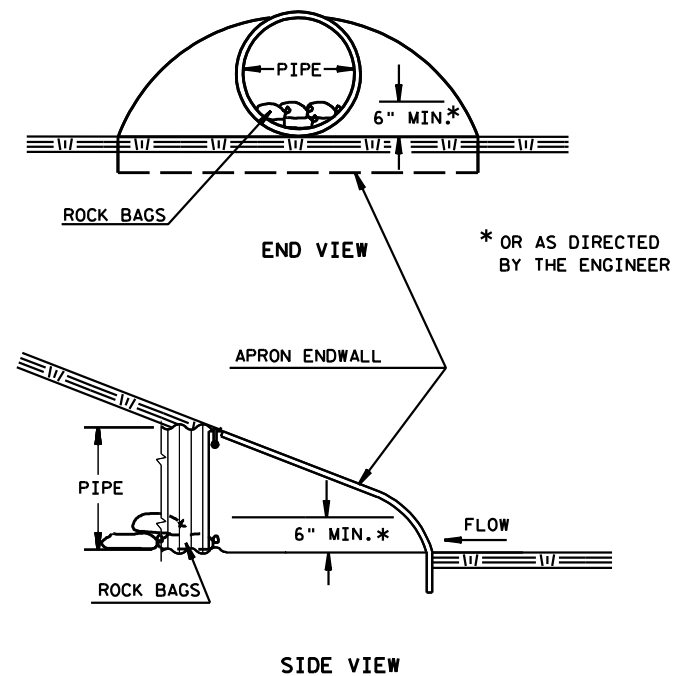
** RADIUS IS TANGENT AT PAVED SHOULDER EDGE OR 5' MAX. OFF EDGE OF MAIN LINE PAVEMENT WHICH EVER IS LESS.
* 3' MAX. OR TO FINISHED SHOULDER WHICH EVER IS LESS.

RURAL DRIVEWAY INTERSECTION DETAIL
(PE's, FE's & CE's)
(FOR NEW CONSTRUCTION)

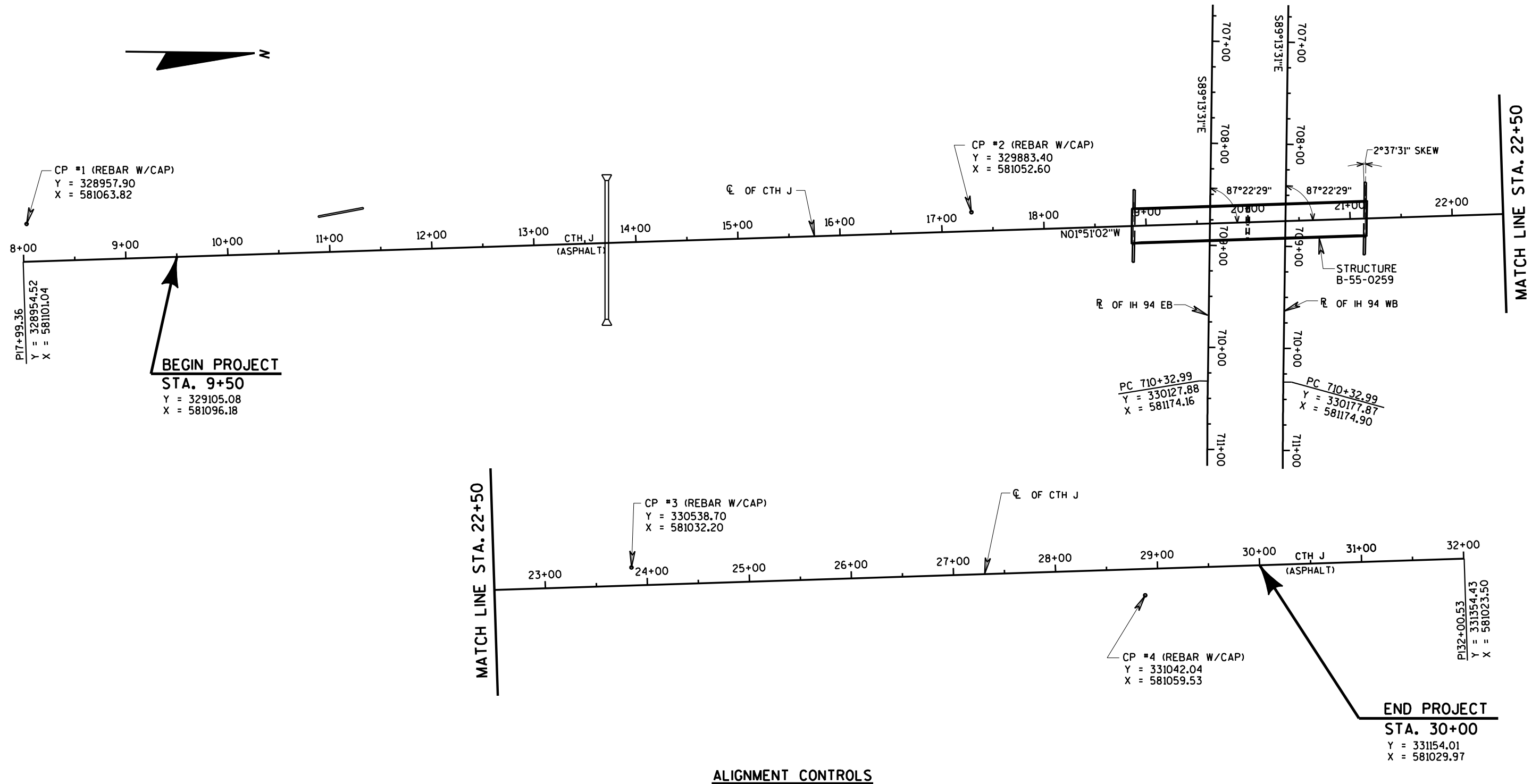


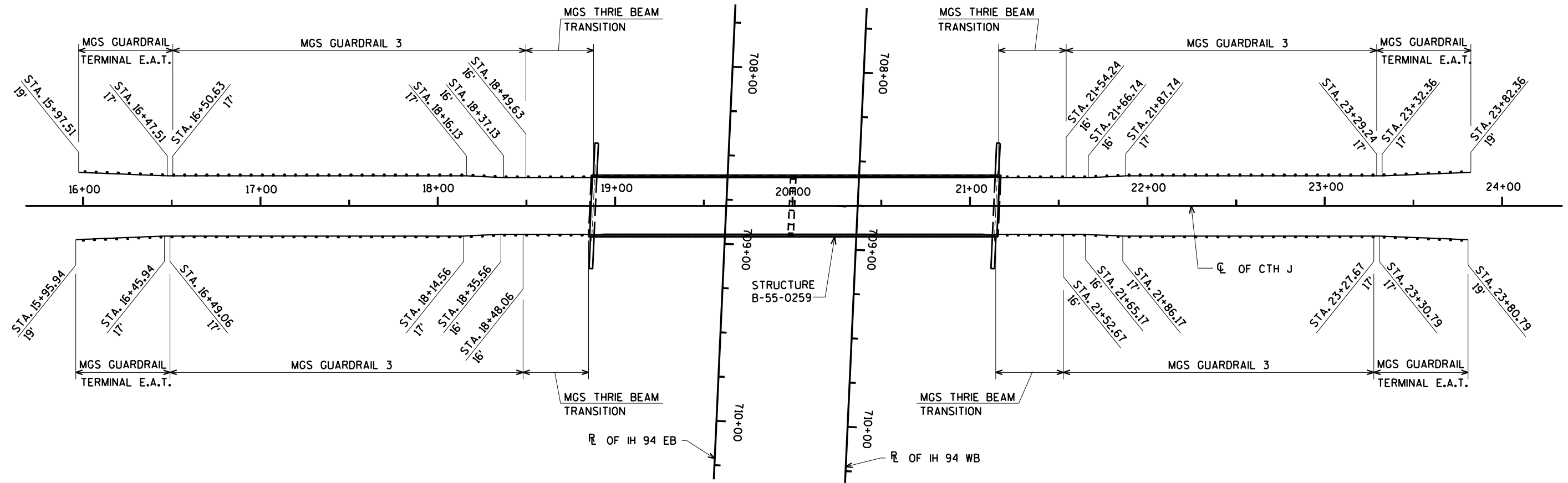
RIPRAP AND GEOTEXTILE FABRIC DETAIL
AT APRON ENDWALLS

ESTIMATED BAG SIZE = 18" x 12" x 6"	
PIPE SIZE	ESTIMATED NO. OF BAGS
12"	1
15"	2
18"	2
21"	3
14" x 23"	3
24"	3
27"	4
30"	5
19" x 30"	5
36"	7
24" x 38"	8
42"	8
29" x 45"	10
48"	10
34" x 53"	10
38" x 60"	13
60"	13
66"	15
53" x 83"	19



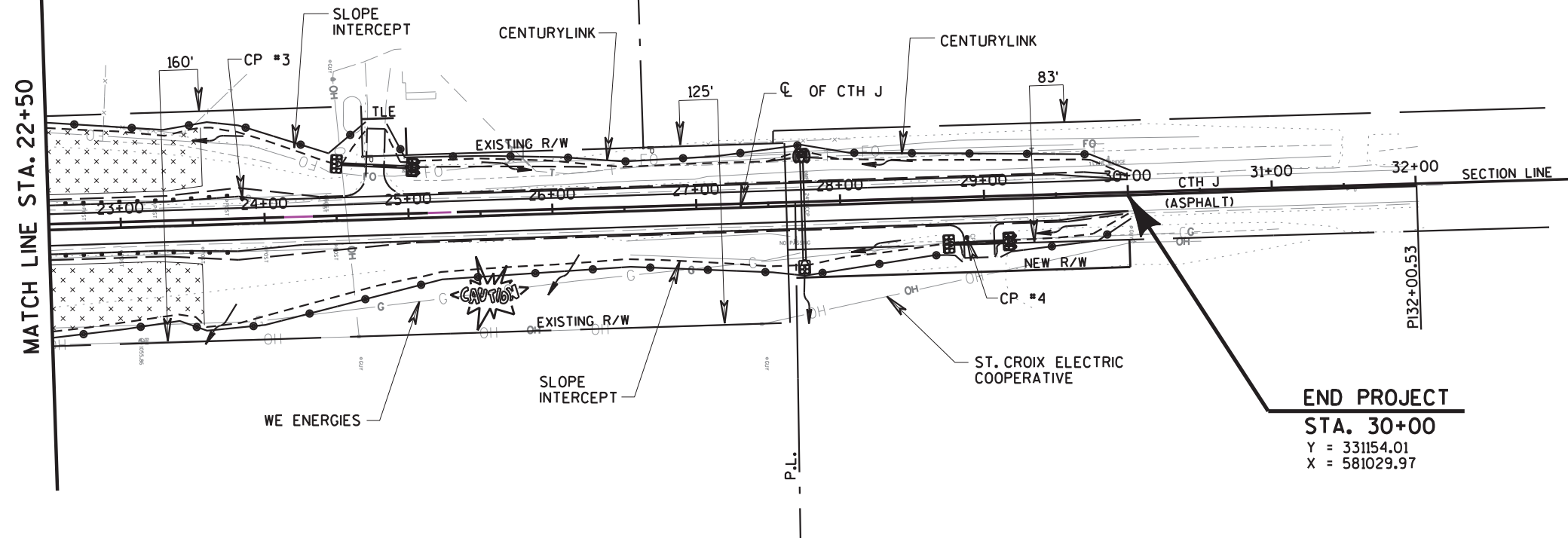
CULVERT PIPE DITCH CHECK
SEE EROSION CONTROL SHEETS FOR LOCATIONS





2 |





LEGEND

	EROSION MAT CLASS II TYPE B
	TEMPORARY DITCH CHECKS (UNDISTRIBUTED)
	SILT FENCE
	SURFACE WATER FLOW
	RIPRAP MEDIUM (WITH GEOTEXTILE FABRIC TYPE HR)
	CULVERT PIPE CHECK

2 |



STA. 9+50
Y = 329105.08
X = 581096.18

	EROSION MAT CLASS II TYPE B
	TEMPORARY DITCH CHECKS (UNDISTRIBUTED)
	SILT FENCE
	SURFACE WATER FLOW
	RIPRAP MEDIUM (WITH GEOTEXTILE FABRIC TYPE HR)
	CULVERT PIPE CHECK
	INLET PROTECTION TYPE A

■

** SEE QUANTITY ESTIMATING CHART
FOR WOOD & BREAKAWAY STEEL POSTS
AND FOR NUMBER OF POSTS REQ'D.

NOTES:

"MO" IS THE SAME AS "M" AND "WO" IS THE SAME AS "W" EXCEPT
THE BACKGROUND IS REFLECTIVE ORANGE.

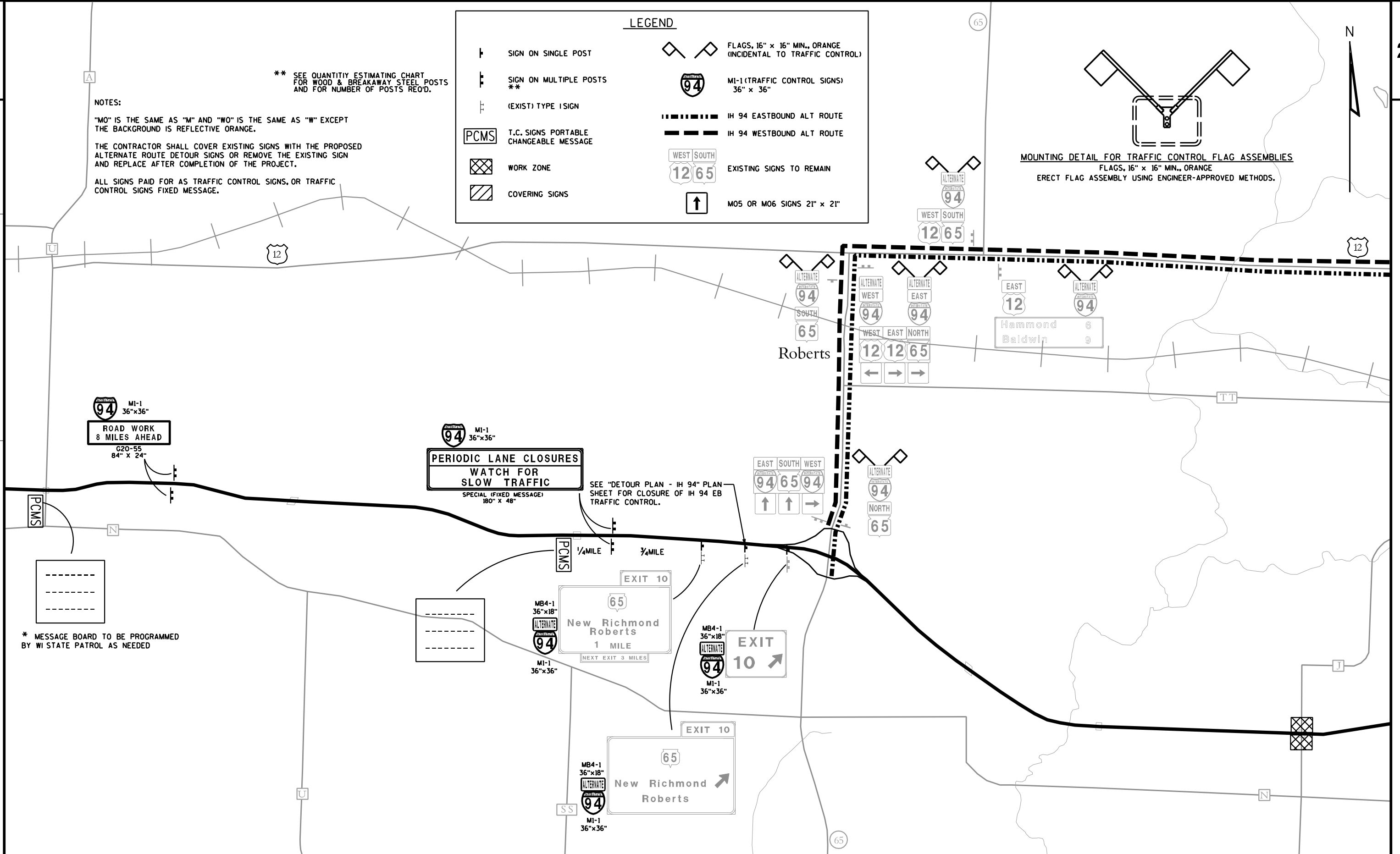
THE CONTRACTOR SHALL COVER EXISTING SIGNS WITH THE PROPOSED
ALTERNATE ROUTE DETOUR SIGNS OR REMOVE THE EXISTING SIGN
AND REPLACE AFTER COMPLETION OF THE PROJECT.

ALL SIGNS PAID FOR AS TRAFFIC CONTROL SIGNS, OR TRAFFIC
CONTROL SIGNS FIXED MESSAGE.

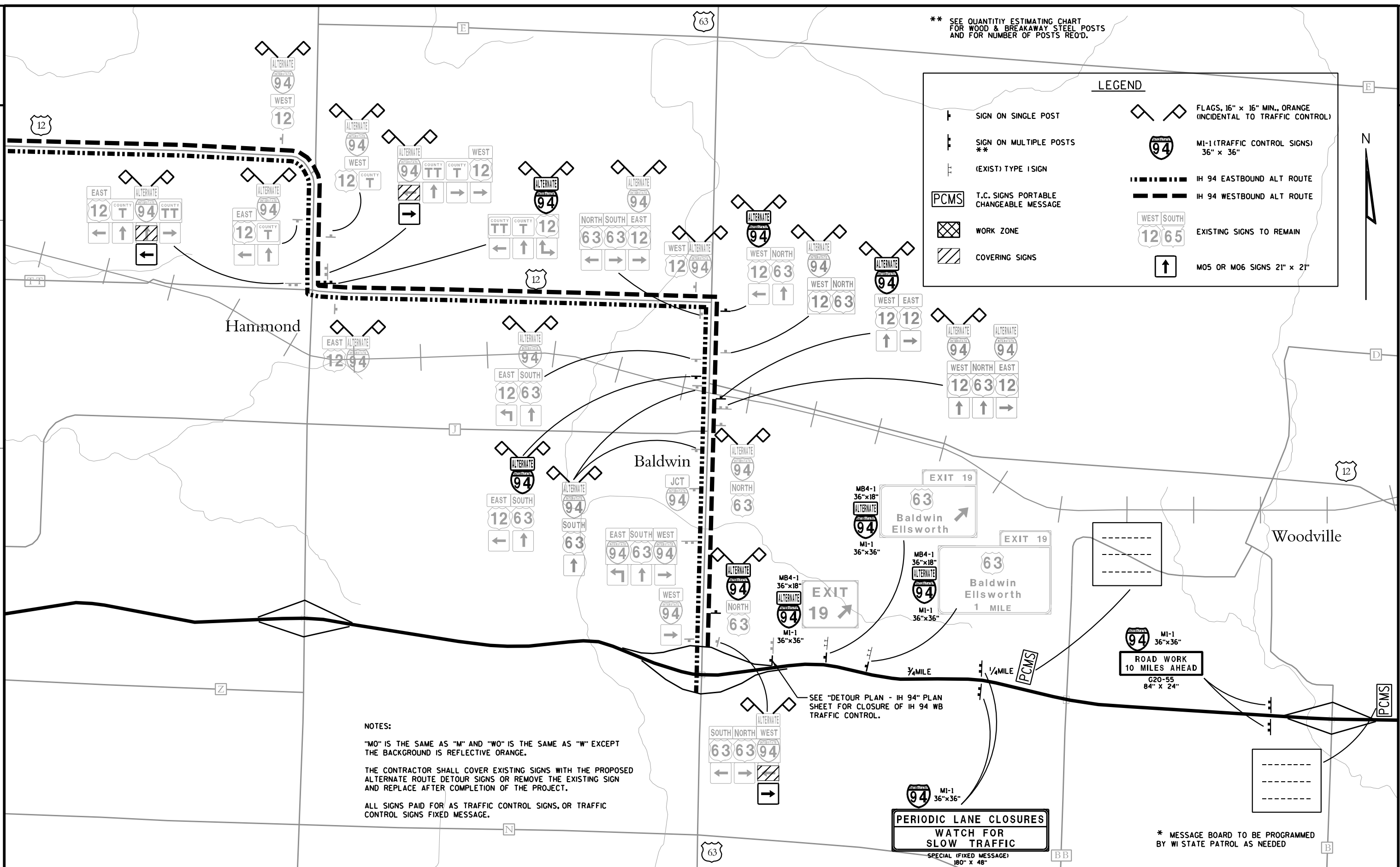
LEGEND

	SIGN ON SINGLE POST		FLAGS, 16" x 16" MIN., ORANGE (INCIDENTAL TO TRAFFIC CONTROL)
	SIGN ON MULTIPLE POSTS **		MI-1 (TRAFFIC CONTROL SIGNS) 36" x 36"
	(EXIST) TYPE 1 SIGN		IH 94 EASTBOUND ALT ROUTE
	T.C. SIGNS PORTABLE CHANGEABLE MESSAGE		IH 94 WESTBOUND ALT ROUTE
	WORK ZONE		EXISTING SIGNS TO REMAIN
	COVERING SIGNS		M05 OR M06 SIGNS 21" x 21"

MOUNTING DETAIL FOR TRAFFIC CONTROL FLAG ASSEMBLIES
FLAGS, 16" x 16" MIN., ORANGE
ERECT FLAG ASSEMBLY USING ENGINEER-APPROVED METHODS.



* MESSAGE BOARD TO BE PROGRAMMED
BY WI STATE PATROL AS NEEDED



** SEE QUANTITY ESTIMATING CHART FOR WOOD & BREAKAWAY STEEL POSTS AND FOR NUMBER OF POSTS REQ'D.

LEGEND

- SIGN ON SINGLE POST
- SIGN ON MULTIPLE POSTS **
- (EXIST) TYPE I SIGN
- PCMS T.C. SIGNS PORTABLE CHANGEABLE MESSAGE
- WORK ZONE
- COVERING SIGNS
- FLAGS, 16" x 16" MIN., ORANGE (INCIDENTAL TO TRAFFIC CONTROL)
- MI-1 (TRAFFIC CONTROL SIGNS) 36" x 36"
- IH 94 EASTBOUND ALT ROUTE
- IH 94 WESTBOUND ALT ROUTE
- EXISTING SIGNS TO REMAIN
- M05 OR M06 SIGNS 21" x 21"

NOTES:

"MO" IS THE SAME AS "M" AND "WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS REFLECTIVE ORANGE.

THE CONTRACTOR SHALL COVER EXISTING SIGNS WITH THE PROPOSED ALTERNATE ROUTE DETOUR SIGNS OR REMOVE THE EXISTING SIGN AND REPLACE AFTER COMPLETION OF THE PROJECT.

ALL SIGNS PAID FOR AS TRAFFIC CONTROL SIGNS, OR TRAFFIC CONTROL SIGNS FIXED MESSAGE.

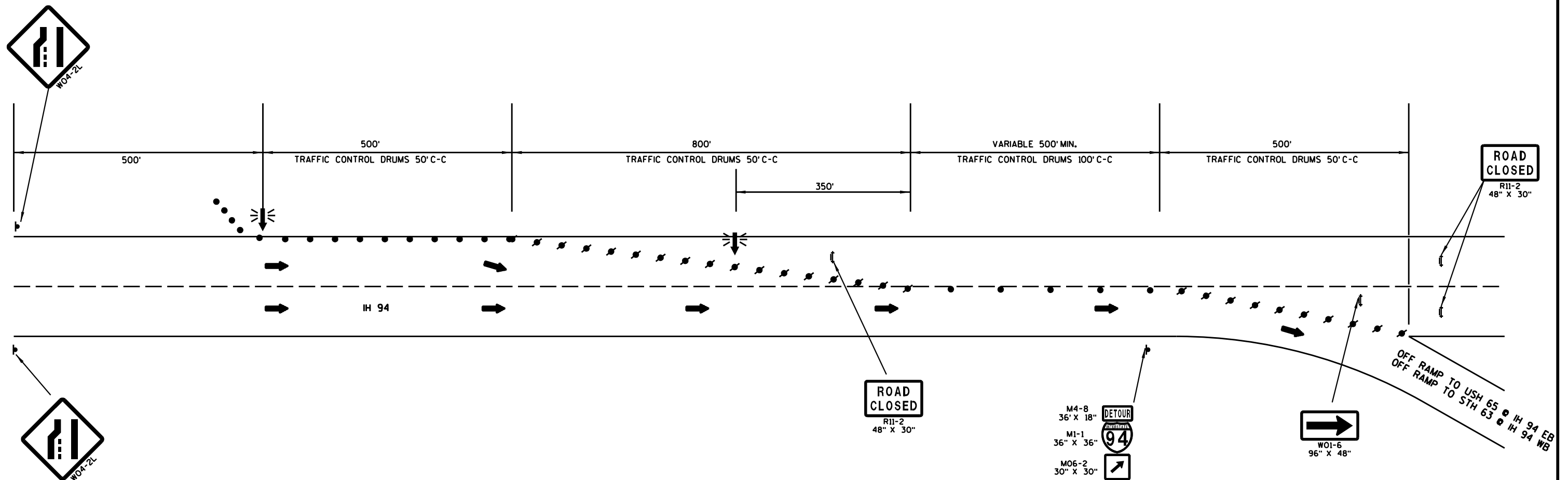
SEE "DETOUR PLAN - IH 94" PLAN SHEET FOR CLOSURE OF IH 94 WB TRAFFIC CONTROL.

PERIODIC LANE CLOSURES
WATCH FOR SLOW TRAFFIC
SPECIAL (FIXED MESSAGE)
180" x 48"

MI-1 36"x36"
ROAD WORK 10 MILES AHEAD
C20-55
84" x 24"

* MESSAGE BOARD TO BE PROGRAMMED BY WI STATE PATROL AS NEEDED

DETOUR PLAN
LANE DROP TO OFF RAMP



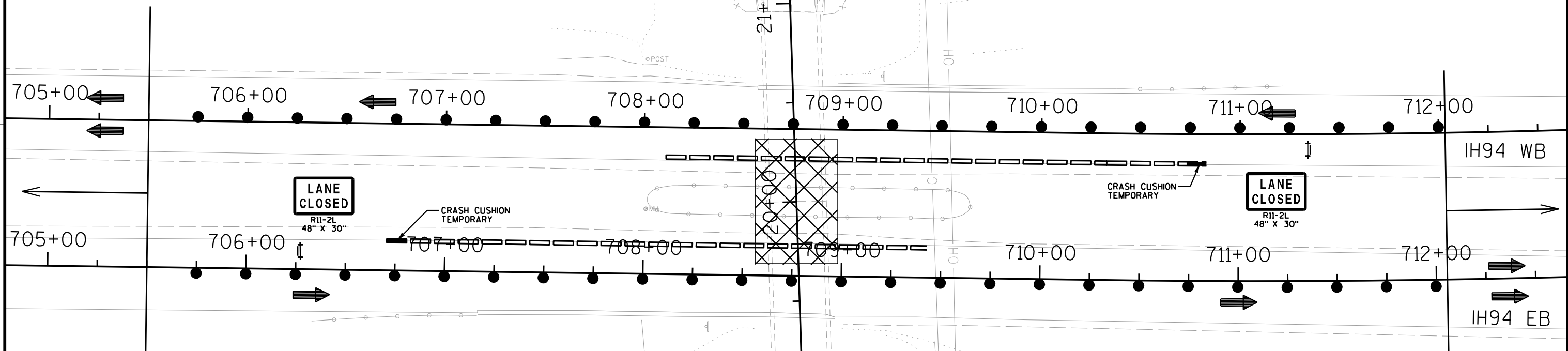
- TRAFFIC CONTROL DRUM
- ⚡ TRAFFIC CONTROL DRUM WITH TYPE C WARNING LIGHT
- ⚡ TYPE III BARCADE WITH SIGN
- ⚡ POST MOUNTED SIGN OR TEMPORARY SIGN SUPPORT
- ⚡ FLASHING ARROW BOARD
- ➡ TRAFFIC FLOW ARROW

NOTES:
FOR ADDITIONAL DETAIL SEE S.D.D. "TRAFFIC CONTROL,
LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H."

REMOVAL OF PAVEMENT MARKINGS AND TEMPORARY
PAVEMENT MARKINGS SHALL NOT BE USED BECAUSE DETOUR
IS TO BE IN PLACE FOR LESS THAN 8 HOURS AT ANY TIME.

TRAFFIC CONTROL DEVICES SHOWN ON THIS SHEET ARE
TO BE USED FOR EXISTING AND PROPOSED GIRDER WORK
ON CTH J OVERPASS STRUCTURE.

SEE SDD "TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION" OR "TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 M.P.H."

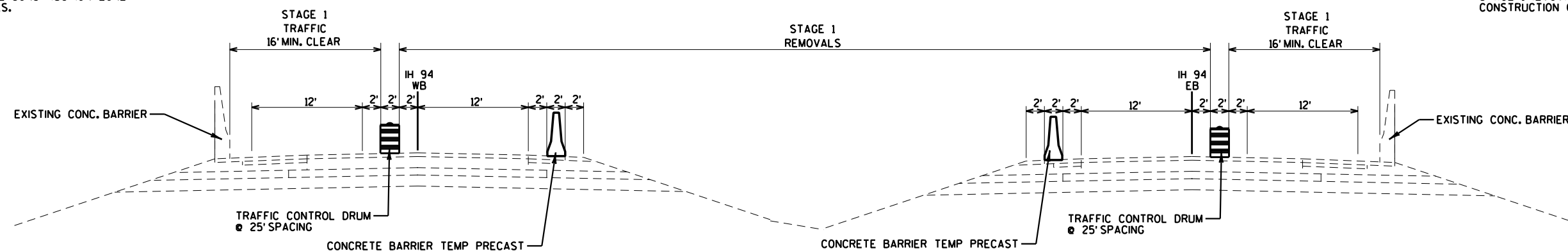


LEGEND

- ➔ TRAFFIC DIRECTION
- /● TRAFFIC CONTROL DRUMS (25' SPACING) WITH/WITHOUT TYPE "C" STEADY BURN LIGHT
- ⚡/⚡ TRAFFIC CONTROL BARRICADES TYPE III WITH/WITHOUT SIGN
- ⊠ OVERHEAD WORK ZONE
- ▬ CONCRETE BARRIER TEMPORARY
- ▬ CRASH CUSHION BARRIER
- ⊥ TRAFFIC CONTROL SIGN TEMP. SUPPORT(S)

NOTE: REGULATORY SPEED WILL BE REDUCED TO 55 MPH WITHIN THE CONSTRUCTION ZONE DURING LANE CLOSURES.

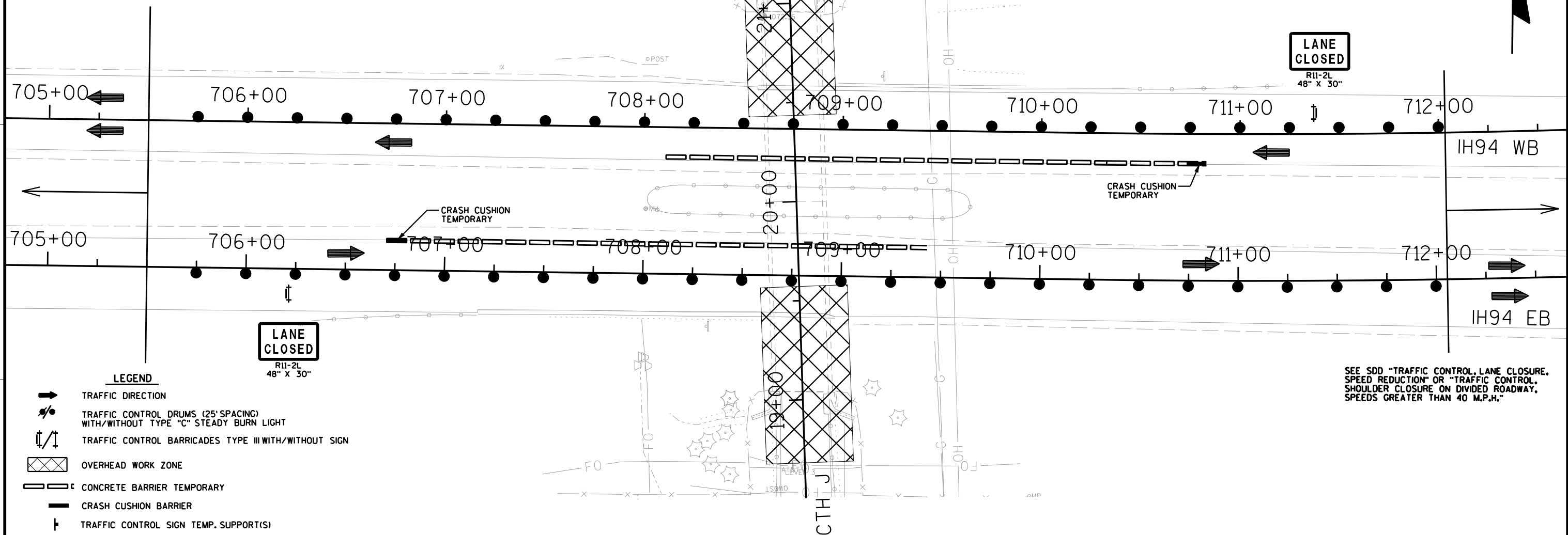
SEE SDD "TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION" OR "TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 M.P.H."



TYPICAL EXISTING SECTION - IH 94

** LANE CLOSURES OF IH 94 EB & WB DO NOT NEED TO BE CONCURRENT.

SEE SDD "TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION" OR "TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 M.P.H."

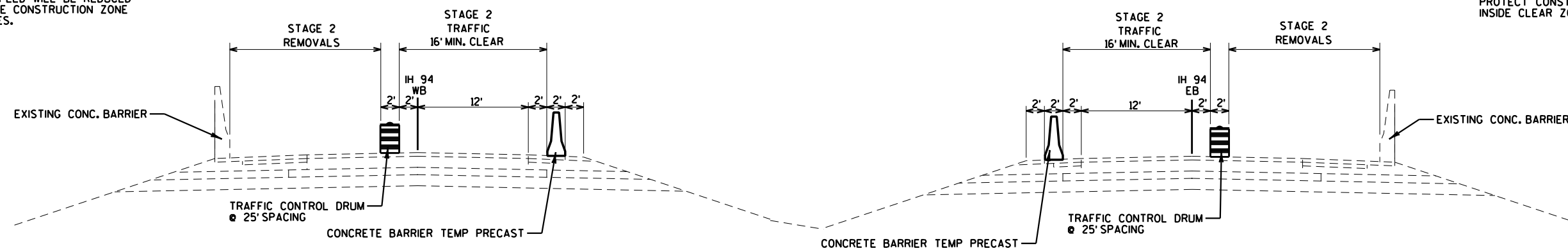


LEGEND

- ➔ TRAFFIC DIRECTION
- /● TRAFFIC CONTROL DRUMS (25' SPACING) WITH/WITHOUT TYPE "C" STEADY BURN LIGHT
- ⬮/⬮ TRAFFIC CONTROL BARRICADES TYPE III WITH/WITHOUT SIGN
- ▨ OVERHEAD WORK ZONE
- ▬ CONCRETE BARRIER TEMPORARY
- ▬ CRASH CUSHION BARRIER
- ⊥ TRAFFIC CONTROL SIGN TEMP. SUPPORT(S)

NOTE: REGULATORY SPEED WILL BE REDUCED TO 55 MPH WITHIN THE CONSTRUCTION ZONE DURING LANE CLOSURES.

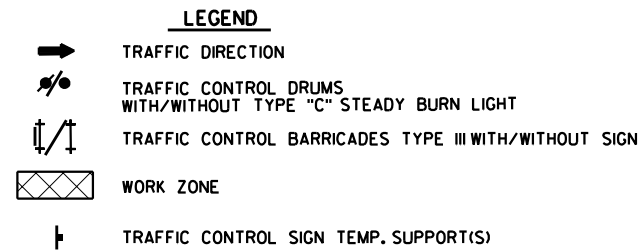
SEE SDD "TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION" OR "TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 M.P.H."



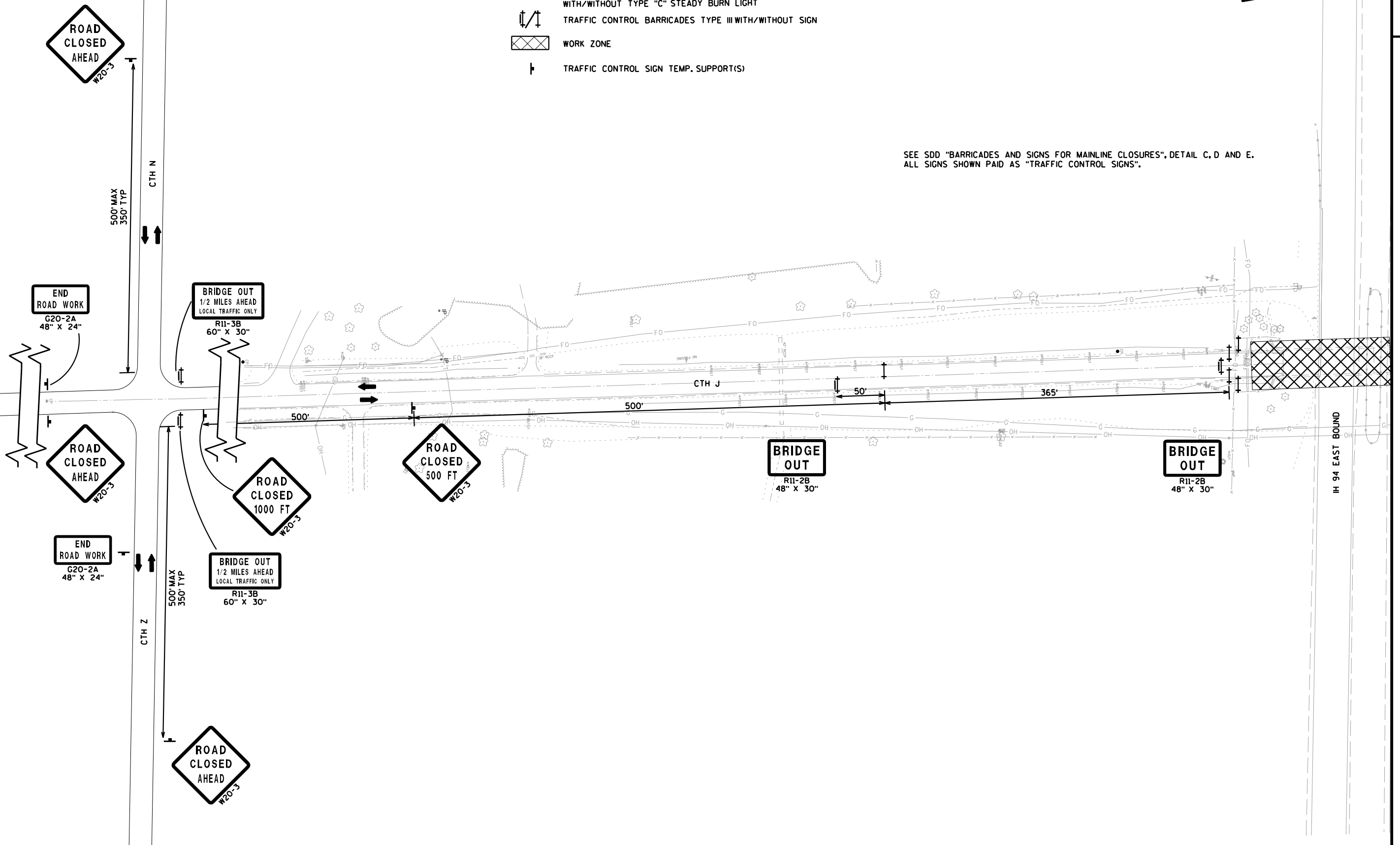
STAGE 2 REMOVALS & AS NEEDED TO PROTECT CONSTRUCTION EQUIPMENT INSIDE CLEAR ZONE.

TYPICAL EXISTING SECTION - IH 94

** LANE CLOSURES OF IH 94 EB & WB DO NOT NEED TO BE CONCURRENT.



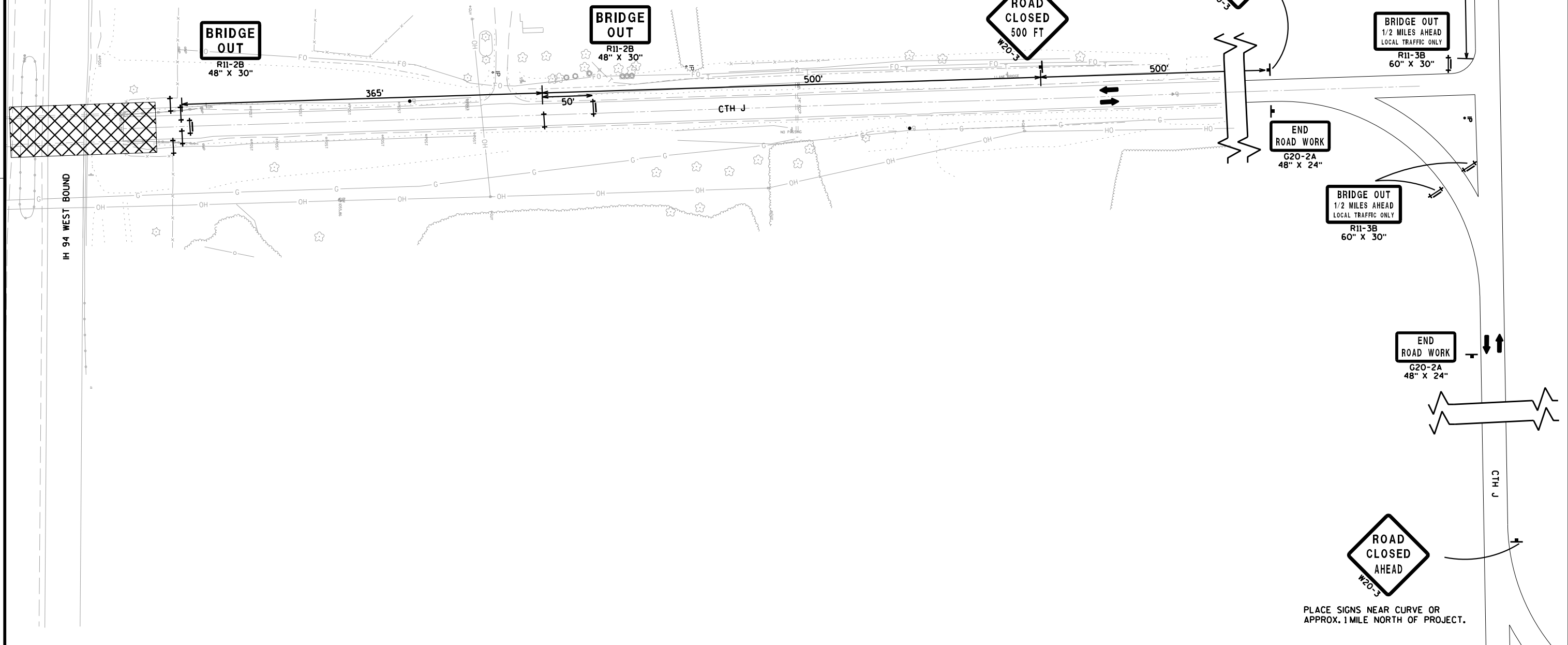
SEE SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES", DETAIL C, D AND E.
ALL SIGNS SHOWN PAID AS "TRAFFIC CONTROL SIGNS".





SEE SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES", DETAIL C, D AND E.
ALL SIGNS SHOWN PAID AS "TRAFFIC CONTROL SIGNS".

LEGEND	
	TRAFFIC DIRECTION
	TRAFFIC CONTROL DRUMS WITH/WITHOUT TYPE "C" STEADY BURN LIGHT
	TRAFFIC CONTROL BARRICADES TYPE III WITH/WITHOUT SIGN
	WORK ZONE
	TRAFFIC CONTROL SIGN TEMP. SUPPORT(S)



PROJECT NO:1020-01-83

HWY:CTH J

COUNTY:ST.CROIX

TRAFFIC CONTROL - CTH J SIGNING

SHEET

17

E

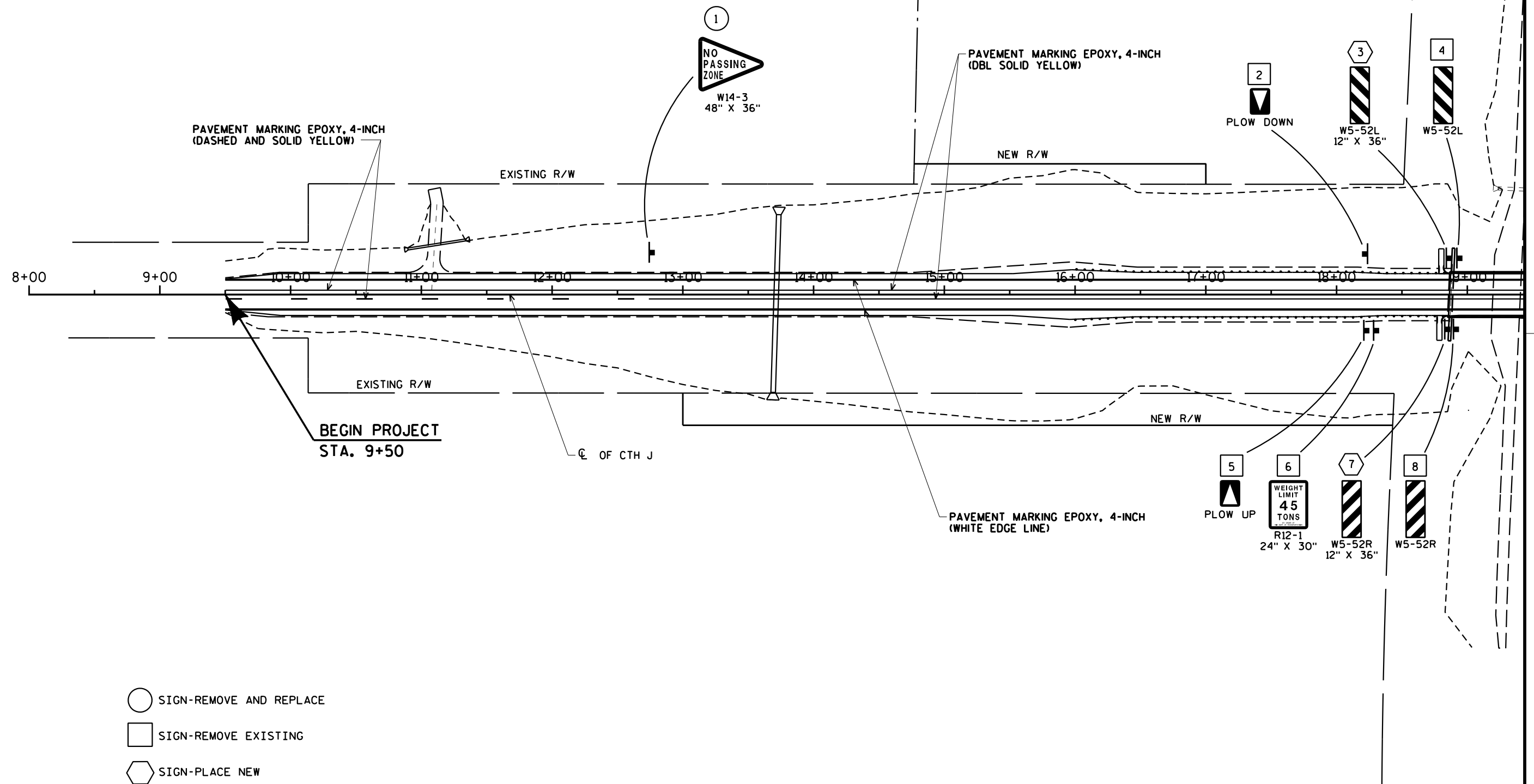
FILE NAME : V:\Structures-EC\42-0886.00 - St. Croix Co. I94 Overpasses x3\42-0886.03 B-55-41 CTH J\RDWY\42088603 TC2 B 55-0259 CLOSURE.dgn DATE : 7/28/2015

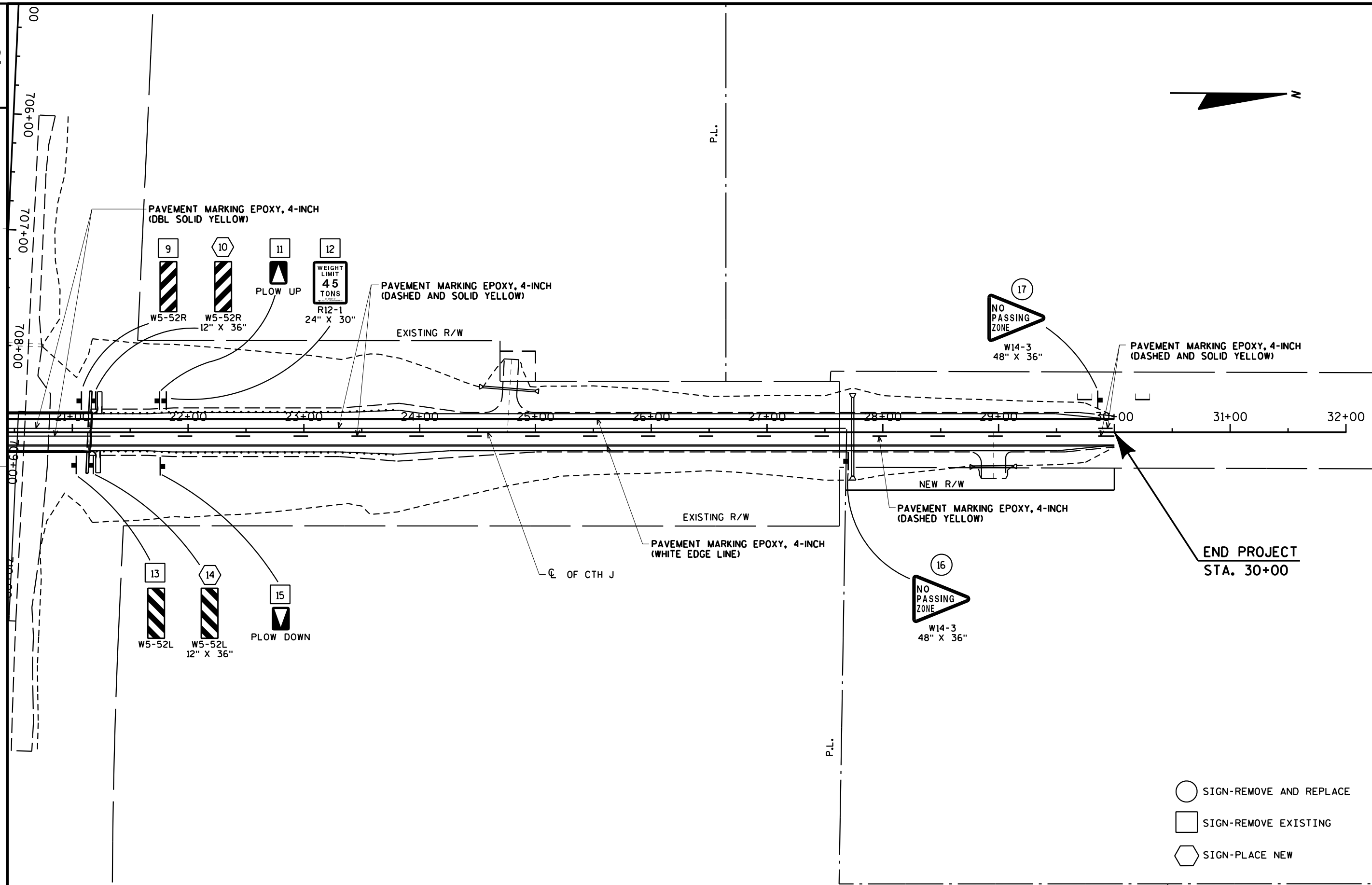
PLOT BY : AYRES-EC

PLOT NAME :

PLOT SCALE : 1:100

WISDOT/CADDs SHEET 42





CULVERT PIPE (CATEGORY 0010)

ROADWAY	STATION	LOCATION	529.0118	529.0124	529.0142	521.1018	521.1024	521.1042
			CULVERT PIPE	CULVERT PIPE	CULVERT PIPE	APRON ENDWALLS	APRON ENDWALLS	APRON ENDWALLS
			CORRUGATED	CORRUGATED	CORRUGATED	FOR CULVERT	FOR CULVERT	FOR CULVERT
			STEEL	STEEL	STEEL			
			ALUMINIUM	ALUMINIUM	ALUMINIUM	PIPE	PIPE	PIPE
			COATED 18-INCH	COATED 24-INCH	COATED 42-INCH	STEEL	STEEL	STEEL
			(0.064" THICKNESS)	(0.064" THICKNESS)	(0.109" THICKNESS)	18-INCH	24-INCH	42-INCH
			LF	LF	LF	EACH	EACH	EACH
CTH J	PE STA. 11+08	LT	45	---	---	2	---	---
	STA. 13+71	---	---	---	136	---	---	2
	PE STA. 24+76	LT	46	---	---	2	---	---
	STA. 27+74	---	---	68	---	---	2	---
	FE STA. 28+96	LT	35	---	---	2	---	---
TOTAL			126	68	136	6	2	2

CONCRETE BARRIER TEMPORARY PRECAST (CATEGORY 0010)

		603.8000	603.8125
		DELIVERED	INSTALLED
ROADWAY	STATION TO STATION	LF	LF
IH 94 EB	STA. 706+70 TO STA. 709+45	275	275
IH 94 WB	STA. 708+10 TO STA. 710+85	275	275
TOTAL		550	550

RIPRAP ITEMS (CATEGORY 0010)

			606.0200	645.0120
			RIPRAP	GEOTEXTILE
ROADWAY	STATION	LOCATION	MEDIUM	FABRIC
			CY	TYPE HR
				SY
CTH J	STA. 10+87	LT	6	20
	STA. 11+37	LT	6	20
	STA. 13+69	RT	9	30
	STA. 13+74	LT	9	30
	STA. 18+79	RT	2	9
	STA. 18+80	LT	2	9
	STA. 21+22	RT	2	9
	STA. 21+24	LT	2	9
	STA. 24+52	LT	6	20
	STA. 25+03	LT	6	20
	STA. 27+74	LT	4	15
	STA. 27+74	RT	4	15
	STA. 28+75	RT	6	20
	STA. 29+15	RT	6	20
TOTAL			70	246

614.0905 CRASH CUSHION TEMPORARY (CATEGORY 0010)

ROADWAY	STATION	LOCATION	EACH
IH 94 EB	STA. 706+70	LT	1
IH 94 WB	STA. 710+85	RT	1
TOTAL			2

614.0920 SALVAGED RAIL (CATEGORY 0010)

ROADWAY	STATION TO STATION	LOCATION	LF
CTH J	STA. 18+30 TO STA. 18+99	RT	75
	STA. 18+32 TO STA. 19+03	LT	75
	STA. 20+95 TO STA. 21+70	RT	80
	STA. 20+97 TO STA. 21+72	LT	80
IH 94 EB	STA. 706+34 TO STA. 707+17	RT	84
IH 94 WB	STA. 710+38 TO STA. 711+22	LT	84
TOTAL			478

GUARDRAIL (CATEGORY 0010)

					614.2300	614.2500	614.2610
					MGS	MGS THRIE	GUARDRAIL
					GUARDRAIL	BEAM	TERMINAL
					3	TRANSITION	E.A.T.
ROADWAY	STATION TO	STATION	LOCATION	LF	LF	EACH	
CTH J	STA. 15+96 TO	STA. 16+49	RT	---	---	1	
	STA. 15+98 TO	STA. 16+51	LT	---	---	1	
	STA. 16+49 TO	STA. 18+48	RT	200	---	---	
	STA. 16+51 TO	STA. 18+50	LT	200	---	---	
	STA. 18+48 TO	STA. 18+87	RT	---	40	---	
	STA. 18+50 TO	STA. 18+89	LT	---	40	---	
	STA. 21+13 TO	STA. 21+53	RT	---	40	---	
	STA. 21+15 TO	STA. 21+54	LT	---	40	---	
	STA. 21+53 TO	STA. 23+28	RT	175	---	---	
	STA. 21+54 TO	STA. 23+29	LT	175	---	---	
	STA. 23+28 TO	STA. 23+81	RT	---	---	1	
	STA. 23+29 TO	STA. 23+82	LT	---	---	1	
TOTALS				750	160	4	

3

DATE 11SEP15		E S T I M A T E O F Q U A N T I T I E S			
LINE					1020-01-83
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0420	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0430	614.0905	Crash Cushions Temporary	EACH	2.000	2.000
0440	614.0920	Salvaged Rail	LF	478.000	478.000
0450	614.2300	MGS Guardrail 3	LF	750.000	750.000
0460	614.2500	MGS Thrie Beam Transition	LF	160.000	160.000
0470	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0480	616.0100	Fence Woven Wire (height) 01. 4-FT	LF	345.000	345.000
0490	619.1000	Mobilization	EACH	1.000	1.000
0500	624.0100	Water	MGAL	180.000	180.000
0510	625.0500	Salvaged Topsoil	SY	17,350.000	17,350.000
0520	627.0200	Mulching	SY	15,565.000	15,565.000
0530	628.1504	Silt Fence	LF	5,760.000	5,760.000
0540	628.1520	Silt Fence Maintenance	LF	20,160.000	20,160.000
0550	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0560	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0570	628.2023	Erosion Mat Class II Type B	SY	8,785.000	8,785.000
0580	628.7005	Inlet Protection Type A	EACH	1.000	1.000
0590	628.7504	Temporary Ditch Checks	LF	65.000	65.000
0600	628.7555	Culvert Pipe Checks	EACH	17.000	17.000
0610	629.0210	Fertilizer Type B	CWT	18.000	18.000
0620	630.0120	Seeding Mixture No. 20	LB	765.000	765.000
0630	630.0200	Seeding Temporary	LB	525.000	525.000
0640	630.0300	Seeding Borrow Pit	LB	180.000	180.000
0650	633.5200	Markers Culvert End	EACH	4.000	4.000
0660	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0670	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	3.000	3.000
0680	637.2230	Signs Type II Reflective F	SF	30.000	30.000
0690	638.2602	Removing Signs Type II	EACH	13.000	13.000
0700	638.3000	Removing Small Sign Supports	EACH	13.000	13.000
0710	642.5001	Field Office Type B	EACH	1.000	1.000
0720	643.0100	Traffic Control (project) 01. 1020-01-83	EACH	1.000	1.000
0730	643.0300	Traffic Control Drums	DAY	27,000.000	27,000.000
0740	643.0420	Traffic Control Barricades Type III	DAY	2,700.000	2,700.000
0750	643.0705	Traffic Control Warning Lights Type A	DAY	4,200.000	4,200.000
0760	643.0715	Traffic Control Warning Lights Type C	DAY	8,600.000	8,600.000
0770	643.0800	Traffic Control Arrow Boards	DAY	800.000	800.000
0780	643.0900	Traffic Control Signs	DAY	11,100.000	11,100.000
0790	643.0920	Traffic Control Covering Signs Type II	EACH	3.000	3.000
0800	643.1000	Traffic Control Signs Fixed Message	SF	240.000	240.000
0810	643.1050	Traffic Control Signs PCMS	DAY	200.000	200.000
0820	645.0120	Geotextile Fabric Type HR	SY	246.000	246.000
0830	646.0106	Pavement Marking Epoxy 4-Inch	LF	7,116.000	7,116.000
0840	648.0100	Locating No-Passing Zones	MI	0.388	0.388
0850	649.0506	Temporary Pavement Marking Removable Mask-Out Tape 6-Inch	LF	4,125.000	4,125.000
0860	650.4500	Construction Staking Subgrade	LF	2,920.000	2,920.000
0870	650.5000	Construction Staking Base	LF	1,820.000	1,820.000
0880	650.6000	Construction Staking Pipe Culverts	EACH	5.000	5.000
0890	650.6500	Construction Staking Structure Layout (structure) 01. B-55-259	LS	1.000	1.000
0900	650.9910	Construction Staking Supplemental Control (project) 01. 1020-01-83	LS	1.000	1.000
0910	650.9920	Construction Staking Slope Stakes	LF	2,920.000	2,920.000

3

3

DATE 11SEP15			E S T I M A T E O F Q U A N T I T I E S		
LINE			1020-01-83		
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0920	690.0150	Sawing Asphalt	LF	432.000	432.000
0930	715.0502	Incentive Strength Concrete Structures	DOL	3,222.000	3,222.000
0940	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	2,000.000	2,000.000
0950	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	630.000	630.000
0960	SPV.0045	Special 01. Portable Changeable Message Sign (PCMS) Cellular Communications	DAY	200.000	200.000
0970	SPV.0090	Special 01. Fence Chain Link Polymer Coated 6-Ft	LF	460.000	460.000
0980	SPV.0090	Special 01. Remove And Reinstall Guardrail	LF	340.000	340.000
0990	SPV.0195	Special 01. Asphaltic Surface Special	TON	1,755.000	1,755.000

3

CLEARING AND GRUBBING (CATEGORY 0010)

ROADWAY	STATION TO STATION	201.0105	201.0205
		CLEARING STA	GRUBBING STA
CTH J	STA. 14+50 TO STA. 16+50	2	2
	STA. 18+25 TO STA. 19+25	1	1
	STA. 21+00 TO STA. 23+00	2	2
	STA. 24+25 TO STA. 26+25	2	2
	STA. 27+25 TO STA. 28+25	1	1
TOTAL		8	8

203.0100 REMOVING SMALL PIPE CULVERTS (CATEGORY 0010)

ROADWAY	STATION	LOCATION	DESCRIPTION	EACH
CTH J	STA. 11+08	LT	18" RCCP	1
	STA. 13+72	---	42" RCCP	1
	STA. 24+76	LT	UNKNOWN SIZE & TYPE	1
	STA. 27+74	---	24" RCCP	1
TOTAL				4

204.0110 REMOVING ASPHALTIC SURFACE (CATEGORY 0010)

ROADWAY	STATION TO STATION	LOCATION	SY
CTH J	STA. 10+50 TO STA. 18+86	MAINLINE	2,230
	STA. 21+16 TO STA. 27+50	MAINLINE	1,570
IH 94 EB	STA. 707+17 TO STA. 708+98	RT	65
IH 94 WB	STA. 708+56 TO STA. 710+37	LT	65
TOTAL			
			3,930

204.0157 REMOVING CONCRETE BARRIER (CATEGORY 0010)

ROADWAY	STATION TO STATION	LOCATION	LF
IH 94 EB	STA. 707+17 TO STA. 708+98	RT	181
IH 94 WB	STA. 708+56 TO STA. 710+37	LT	181
TOTAL			
			362

204.0170 REMOVING FENCE (CATEGORY 0010)

ROADWAY	STATION TO STATION	LOCATION	LF
IH 94 EB	STA. 708+98 TO STA. 709+80	RT	127
	STA. 707+99 TO STA. 708+65	RT	116
IH 94 WB	STA. 708+89 TO STA. 709+50	LT	109
	STA. 707+90 TO STA. 708+56	LT	115
TOTAL			
			467

204.0180 REMOVING DELINEATORS & MARKERS (CATEGORY 0010)

ROADWAY	STATION TO STATION	LOCATION	EACH
CTH J	STA. 13+00 TO STA. 18+00	LT & RT	21
	STA. 22+25 TO STA. 24+50	LT & RT	11
TOTAL			
			32

204.0190 REMOVING SURFACE DRAINS (CATEGORY 0010)

ROADWAY	STATION	LOCATION	EACH
CTH J	STA. 18+99	LT	1
	STA. 18+98	RT	1
TOTAL			
			2

213.0100 FINISHING ROADWAY (CATEGORY 0010)

LOCATION	EACH
PROJECT 1020-01-83	1

EARTHWORK SUMMARY (CATEGORY 0010)												
DIVISION	STATION TO STATION	ROADWAY	205.0100		SALVAGED/ UNUSEABLE	AVAILABLE	UNEXPANDED FILL CY	EXPANDED FILL (4) CY	MASS ORDINATE ±(5) CY	WASTE CY	208.0100 BORROW CY	COMMENTS:
			EXCAVATION COMMON		PAVEMENT	MATERIAL						
			CUT (2) CY	EBS (3) CY	(6) CY	(7) CY						
1	STA. 9+50 TO STA. 30+00	CTH J	509	0	515	-6	26,707	34,719	-34,725	0	34,725	
2	STA. 706+00 TO STA. 711+50	IH 94	3,011	0	0	3,011	311	404	2,607	2607	-2,607	
GRANDTOTAL			3,520	0	515	3,005	27,018	35,123	-32,118	2,607	32,118	
TOTAL EXCAVATION COMMON			3,520 CY		TOTAL BORROW 32,118 CY							

NOTES:
1) EXCAVATION COMMON IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100
2) SALVAGED/UNUSEABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
3) EBS EXCAVATION TO BE BACKFILLED WITH BORROW MATERIAL.
4) EXPANDED FILL FACTOR = 1.30 EXPANDED FILL = UNEXPANDED FILL * FILL FACTOR
5) THE MASS ORDINATE ± QTY CALCUTATED FOR THE DIVISION.
PLUS (+) QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION.
MINUS (-) QUANTITY INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.
6) SALVAGED/UNUSEABLE PAVEMENT MATERIAL
7) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSEABLE PAVEMENT MATERIAL

BASE AGGREGATE DENSE (CATEGORY 0010)				
ROADWAY	STATION TO STATION	LOCATION	305.0110	305.0120
			3/4-INCH TON	1 1/4-INCH TON
CTH J	STA. 9+50 TO STA. 18+87	---	150	3,100
	STA. 21+15 TO STA. 30+00	---	140	2,905
	PE STA. 11+08	LT	35	---
	PE STA. 24+76	LT	30	---
	FE STA. 28+96	RT	25	---
IH 94 WB	STA. 706+00 TO STA. 711+50	---	---	460
IH 94 EB	STA. 706+00 TO STA. 711+50	---	---	335
TOTALS			380	6,800

ASPHALTIC ITEMS (CATEGORY 0010)					
ROADWAY	STATION TO STATION	LOCATION	455.0605	SPV.0195.01	465.0315
			TACK COAT GAL	ASPHALTIC SURFACE SPECIAL TON	ASPHALTIC FLUMES SY
CTH J	STA. 9+50 TO STA. 18+86	---	170	875	---
	STA. 18+77 TO STA. 18+85	RT	---	---	10
	STA. 18+78 TO STA. 18+86	LT	---	---	10
	STA. 21+16 TO STA. 30+00	---	160	820	---
	STA. 21+16 TO STA. 21+24	RT	---	---	10
	STA. 21+17 TO STA. 21+25	LT	---	---	10
IH 94 EB	STA. 707+17 TO STA. 708+98	RT	10	30	---
IH 94 WB	STA. 708+56 TO STA. 710+37	LT	10	30	---
TOTALS			350	1,755	40

CULVERT PIPE (CATEGORY 0010)

ROADWAY	STATION	LOCATION	529.0118	529.0124	529.0142	521.1018	521.1024	521.1042
			CULVERT PIPE	CULVERT PIPE	CULVERT PIPE	APRON ENDWALLS	APRON ENDWALLS	APRON ENDWALLS
			CORRUGATED	CORRUGATED	CORRUGATED	FOR CULVERT	FOR CULVERT	FOR CULVERT
			STEEL	STEEL	STEEL			
			ALUMINIUM	ALUMINIUM	ALUMINIUM	PIPE	PIPE	PIPE
			COATED 18-INCH	COATED 24-INCH	COATED 42-INCH	STEEL	STEEL	STEEL
			(0.064" THICKNESS)	(0.064" THICKNESS)	(0.109" THICKNESS)	18-INCH	24-INCH	42-INCH
			LF	LF	LF	EACH	EACH	EACH
CTH J	PE STA. 11+08	LT	45	---	---	2	---	---
	STA. 13+71	---	---	---	136	---	---	2
	PE STA. 24+76	LT	46	---	---	2	---	---
	STA. 27+74	---	---	68	---	---	2	---
	FE STA. 28+96	LT	35	---	---	2	---	---
TOTAL			126	68	136	6	2	2

CONCRETE BARRIER TEMPORARY PRECAST (CATEGORY 0010)

ROADWAY	STATION TO STATION	603.8000	603.8125
		DELIVERED	INSTALLED
		LF	LF
IH 94 EB	STA. 706+70 TO STA. 709+45	275	275
IH 94 WB	STA. 708+10 TO STA. 710+85	275	275
TOTAL		550	550

RIPRAP ITEMS (CATEGORY 0010)

ROADWAY	STATION	LOCATION	606.0200	645.0120
			RIPRAP	GEOTEXTILE
			MEDIUM	FABRIC
			CY	TYPE HR
				SY
CTH J	STA. 10+87	LT	6	20
	STA. 11+37	LT	6	20
	STA. 13+69	RT	9	30
	STA. 13+74	LT	9	30
	STA. 18+79	RT	2	9
	STA. 18+80	LT	2	9
	STA. 21+22	RT	2	9
	STA. 21+24	LT	2	9
	STA. 24+52	LT	6	20
	STA. 25+03	LT	6	20
	STA. 27+74	LT	4	15
	STA. 27+74	RT	4	15
	STA. 28+75	RT	6	20
	STA. 29+15	RT	6	20
TOTAL			70	246

614.0905 CRASH CUSHION TEMPORARY (CATEGORY 0010)

ROADWAY	STATION	LOCATION	EACH
IH 94 EB	STA. 706+70	LT	1
IH 94 WB	STA. 710+85	RT	1
TOTAL			2

614.0920 SALVAGED RAIL (CATEGORY 0010)

ROADWAY	STATION TO STATION	LOCATION	LF
CTH J	STA. 18+30 TO STA. 18+99	RT	75
	STA. 18+32 TO STA. 19+03	LT	75
	STA. 20+95 TO STA. 21+70	RT	80
	STA. 20+97 TO STA. 21+72	LT	80
IH 94 EB	STA. 706+34 TO STA. 707+17	RT	84
IH 94 WB	STA. 710+38 TO STA. 711+22	LT	84
TOTAL			478

GUARDRAIL (CATEGORY 0010)

ROADWAY	STATION TO STATION	LOCATION	614.2300	614.2500	614.2610
			MGS	MGS THRIE	MGS
			GUARDRAIL	BEAM	GUARDRAIL
			3	TRANSITION	TERMINAL
			LF	LF	E.A.T.
					EACH
CTH J	STA. 15+96 TO STA. 16+49	RT	---	---	1
	STA. 15+98 TO STA. 16+51	LT	---	---	1
	STA. 16+49 TO STA. 18+48	RT	200	---	---
	STA. 16+51 TO STA. 18+50	LT	200	---	---
	STA. 18+48 TO STA. 18+87	RT	---	40	---
	STA. 18+50 TO STA. 18+89	LT	---	40	---
	STA. 21+13 TO STA. 21+53	RT	---	40	---
	STA. 21+15 TO STA. 21+54	LT	---	40	---
	STA. 21+53 TO STA. 23+28	RT	175	---	---
	STA. 21+54 TO STA. 23+29	LT	175	---	---
	STA. 23+28 TO STA. 23+81	RT	---	---	1
	STA. 23+29 TO STA. 23+82	LT	---	---	1
TOTALS			750	160	4

616.0100 FENCE WOVEN WIRE 4-FT (CATEGORY 0010)				
ROADWAY	STATION TO STATION	LOCATION	LF	
CTH J	STA. 18+47 TO STA. 18+86	RT	100	
	STA. 18+54 TO STA. 18+89	LT	85	
	STA. 21+13 TO STA. 21+43	RT	80	
	STA. 21+16 TO STA. 21+53	LT	80	
TOTAL			345	

<u>619.1000 MOBILIZATION</u>	
LOCATION	EACH
PROJECT 1020-01-83 (CATEGORY 0010)	0.4
PROJECT 1020-01-83 (CATEGORY 0020)	0.6
TOTAL	1

<u>624.0100 WATER (CATEGORY 0010)</u>	
PURPOSE	MGAL
COMPACTION	80
DUST CONTROL	100
TOTAL	180

SALVAGED TOPSOIL, MULCHING, FERTILIZER, SEED & TEMPORARY SEED (CATEGORY 0010)

ROADWAY	STATION TO STATION	625.0500 SALVAGED TOPSOIL SY	627.0200 MULCHING SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING NO. 20 LB	630.0200 SEEDING TEMPORARY LB	630.0300 SEEDING BORROW PIT LB
CTH J	STA. 9+50 TO STA. 30+00	15,170	11,855	12.0	506	320	---
IH 94	STA. 706+00 TO STA. 711+50	2,180	3,710	2.5	103	100	---
BORROW PIT		---	---	---	---	---	143
UNDISTRIBUTED		---	---	3.5	156	105	37
TOTALS		17,350	15,565	18.0	765	525	180

SILT FENCE & SILT FENCE MAINTENANCE (CATEGORY 0010)

ROADWAY	STATION TO STATION	LOCATION	628.1504 LF	628.1520 MAINTENANCE LF
CTH J	STA. 9+50 TO STA. 19+04	RT	975	3,413
	STA. 9+50 TO STA. 11+05	LT	190	665
	STA. 11+16 TO STA. 19+16	LT	830	2,905
	STA. 20+82 TO STA. 28+84	RT	815	2,852
	STA. 20+93 TO STA. 24+72	LT	400	1,400
	STA. 24+87 TO STA. 30+00	LT	535	1,872
	STA. 29+10 TO STA. 30+00	RT	100	350
IH 94 EB	STA. 706+00 TO STA. 707+93	RT	195	683
	STA. 709+73 TO STA. 711+50	RT	195	647
IH 94 WB	STA. 706+00 TO STA. 707+85	LT	185	683
	STA. 709+59 TO STA. 711+50	LT	190	665
UNDISTRIBUTED			1,150	4,025
TOTALS			5,760	20,160

MOBILIZATIONS EROSION CONTROL & EMERGENCY EROSION CONTROL (CATEGORY 0010)

LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
PROJECT 1020-01-83	4	2

628.2023 EROSION MAT CLASS II TYPE B (CATEGORY 0010)

ROADWAY	STATION TO STATION	LOCATION	SY
CTH J	STA. 16+21 TO STA. 19+09	RT	2,020
	STA. 16+23 TO STA. 19+17	LT	1,925
	STA. 20+87 TO STA. 23+56	RT	1,475
	STA. 20+91 TO STA. 23+57	LT	1,485
IH 94 EB	STA. 708+05 TO STA. 708+61	RT	35
	STA. 709+00 TO STA. 709+50	RT	20
IH 94 WB	STA. 708+93 TO STA. 709+75	LT	30
	STA. 708+00 TO STA. 708+54	LT	40
UNDISTRIBUTED			1,755
TOTAL			8,785

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628.7005 INLET PROTECTION TYPE A (CATEGORY 0010)

ROADWAY	STATION	LOCATION	EACH
IH 94	STA. 708+01	MEDIAN	1

628.7504 TEMPORARY DITCH CHECKS (CATEGORY 0010)

ROADWAY	STATION TO STATION	LOCATION	LF
CTH J	STA. 25+00 TO 26+00 UNDISTRIBUTED	LT	15 50

TOTAL 65

628.7555 CULVERT PIPE CHECKS (CATEGORY 0010)

ROADWAY	STATION	LOCATION	PIPE SIZE	EACH
CTH J	STA. 10+90	LT	18"	2
	STA. 13+74	LT	42"	8
	STA. 25+00	LT	18"	2
	STA. 27+74	RT	24"	3
	STA. 29+13	RT	18"	2

TOTAL 17

633.5200 MARKERS CULVERT END (CATEGORY 0010)

ROADWAY	STATION	LOCATION	EACH
CTH J	STA. 13+69	RT	1
	STA. 13+75	LT	1
	STA. 27+71	RT	1
	STA. 27+77	LT	1

TOTAL 4

POSTS WOOD 4X6-INCH (CATEGORY 0010)

ROADWAY	STATION	LOCATION	TYPE	634.0612 12-FT EACH	634.0618 18-FT EACH
CTH J	STA. 12+74	LT	NO PASSING	---	1
	STA. 18+84	RT	OBJECT MARKER	1	---
	STA. 18+86	LT	OBJECT MARKER	1	---
	STA. 21+17	RT	OBJECT MARKER	1	---
	STA. 21+18	LT	OBJECT MARKER	1	---
	STA. 27+68	RT	NO PASSING	---	1
	STA. 29+86	LT	NO PASSING	---	1

TOTAL 4 3

637.2230 SIGNS TYPE II REFLECTIVE F (CATEGORY 0010)

ROADWAY	STATION	LOCATION	TYPE	SF
CTH J	STA. 12+74	LT	W14-3	6
	STA. 18+84	RT	W5-52R	3
	STA. 18+86	LT	W5-52L	3
	STA. 21+17	RT	W5-52L	3
	STA. 21+18	LT	W5-52R	3
	STA. 27+68	RT	W14-3	6
	STA. 29+86	LT	W14-4	6

TOTAL 30

SIGN REMOVALS (CATEGORY 0010)

ROADWAY	STATION	LOCATION	TYPE	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH
CTH J	STA. 12+74	LT	NO PASSING	1	1
	STA. 18+24	LT	PLOW DOWN	1	1
	STA. 18+21	RT	PLOW UP	1	1
	STA. 18+25	RT	45 TON LIMIT	1	1
	STA. 18+88	RT	OBJECT MARKER	1	1
	STA. 18+90	LT	OBJECT MARKER	1	1
	STA. 21+04	RT	OBJECT MARKER	1	1
	STA. 21+08	LT	OBJECT MARKER	1	1
	STA. 21+76	LT	PLOW UP	1	1
	STA. 21+76	RT	PLOW DOWN	1	1
	STA. 21+79	LT	45 TON LIMIT	1	1
	STA. 27+68	RT	NO PASSING	1	1
	STA. 29+86	LT	NO PASSING	1	1

TOTAL 13 13

642.5001 FIELD OFFICE TYPE B (CATEGORY 0010)

LOCATION	EACH
PROJECT 1020-01-83	1

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TRAFFIC CONTROL (CATEGORY 0010)										
LOCATION	643.0100 PROJECT 1020-01-83 EACH	643.0300 DRUMS DAYS	643.0420 BARRICADES TYPE III DAYS	643.0705 WARNING LIGHTS TYPE A DAYS	643.0715 WARNING LIGHTS TYPE C DAYS	643.0800 ARROW BOARDS DAYS	643.0900 SIGNS DAYS	643.0920 COVERING SIGNS TYPE II EACH	643.1000 SIGNS FIXED MESSAGE SF	643.1050 SIGNS PCMS DAYS
IH 94 WB	---	13,500	400	600	4,300	400	2,600	---	---	---
IH 94 EB	---	13,500	400	600	4,300	400	2,600	---	---	---
CTH J	---	---	1,900	3,000	---	---	2,100	---	---	---
ALT. ROUTE/IH 94	---	---	---	---	---	---	3,800	3	240	200
TOTAL	1	27,000	2,700	4,200	8,600	800	11,100	3	240	200

646.0106 PAVEMENT MARKING EPOXY 4-INCH
(CATEGORY 0010)

ROADWAY	LOCATION	DESCRIPTION	LF
CTH J	STA. 9+50 TO STA. 30+00	WHITE EDGELINE	4,100
	STA. 9+50 TO STA. 12+74	YELLOW SOLID & DASHED CENTERLINE	411.5
	STA. 12+74 TO STA. 21+33	YELLOW DOUBLE SOLID CENTERLINE	1,718
	STA. 21+33 TO STA. 27+68	YELLOW SOLID & DASHED CENTERLINE	797.5
	STA. 27+68 TO STA. 29+86	YELLOW DASHED CENTERLINE	63
	STA. 29+86 TO STA. 30+00	YELLOW SOLID & DASHED CENTERLINE	26.5
TOTAL			7,116

649.0506 TEMPORARY PAVEMENT MARKING REMOVABLE MASK-OUT TAPE 6-INCH
(CATEGORY 0010)

ROADWAY	DESCRIPTION	LF
IH 94 EB	WHITE CENTERLINE DASHED EDGELINE	212.5 1,850
IH 94 WB	WHITE CENTERLINE DASHED EDGELINE STAGE 1	212.5 1,850
TOTAL		4,125

CONSTRUCTION STAKING (CATEGORY 0010)

648.0100 LOCATING NO-PASSING ZONES (CATEGORY 0010)

LOCATION	MI
PROJECT 1020-01-83	0.388

CATEGORY	ROADWAY	STATION	LOCATION	650.4500 SUBGRADE LF	650.5000 BASE LF	650.6000 PIPE CULVERTS EACH	650.6500 STRUCTURE LAYOUT LS	650.9910 SUPPLEMENTARY CONTROL LS	650.9920 SLOPE STAKES LF
0010	CTH J	STA. 9+50 TO STA. 30+00	---	1,820	1,820	---	---	1	1,820
		PE, STA. 11+08	LT	---	---	1	---	---	---
		STA. 13+71	---	---	---	1	---	---	---
		PE, STA. 24+76	LT	---	---	1	---	---	---
		STA. 27+74	---	---	---	1	---	---	---
		FE, STA. 28+96	RT	---	---	1	---	---	---
0010	IH 94 EB	STA. 706+00 TO STA. 711+50	RT	550	---	---	---	---	550
0010	IH 94 WB	STA. 706+00 TO STA. 711+50	LT	550	---	---	---	---	550
0020		B-55-259	---	---	---	---	1	---	---
TOTALS				2,920	1,820	5	1	1	2,920

690.0150 SAWING ASPHALT (CATEGORY 0010)			
ROADWAY	STATION	LOCATION	LF
CTH J	STA. 9+50	Mainline	24
	STA. 30+00	Mainline	22
IH 94 EB	STA. 707+17 TO STA. 708+98	RT	193
IH 94 WB	STA. 708+56 TO STA. 710+37	LT	193
TOTAL			432

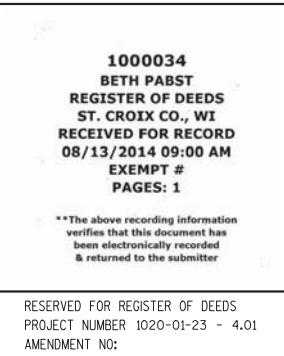
SPV.0045.01 PORTABLE CHANGEABLE MESSAGE SIGN (PCMS) CELLULAR COMMUNICATIONS (CATEGORY 0010)	
LOCATION	DAY
IH 94	200

SPV.0090.01 REMOVE AND REINSTALL GUARDRAIL (CATEGORY 0010)		
ROADWAY	STATION TO STATION	LF
IH 94	STA. 708+02 TO STA. 709+65	340
	(MEDIAN @ PIER)	
TOTAL		340

OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY
AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF
LAND INTERESTS TO THE DEPARTMENT.

SCHEDULE OF UTILITIES & INTERESTS REQUIRED

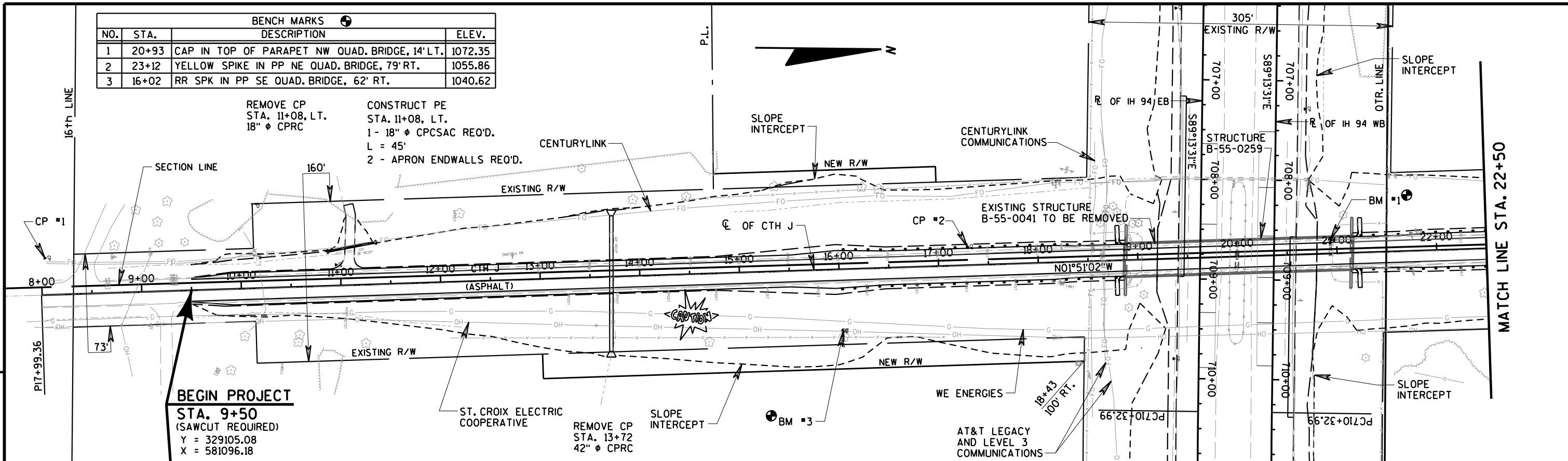
UTILITY EASEMENT INFORMATION		
UTILITY	RECORDING INFORMATION	PARCEL(S)
ALL	NO EASEMENTS OF RECORD	1,2,3,4,5



BENCH MARKS			
NO.	STA.	DESCRIPTION	ELEV.
1	20+93	CAP IN TOP OF PARAPET NW QUAD. BRIDGE, 14' LT.	1072.35
2	23+12	YELLOW SPIKE IN PP NE QUAD. BRIDGE, 79' RT.	1055.86
3	16+02	RR SPK IN PP SE QUAD. BRIDGE, 62' RT.	1040.62

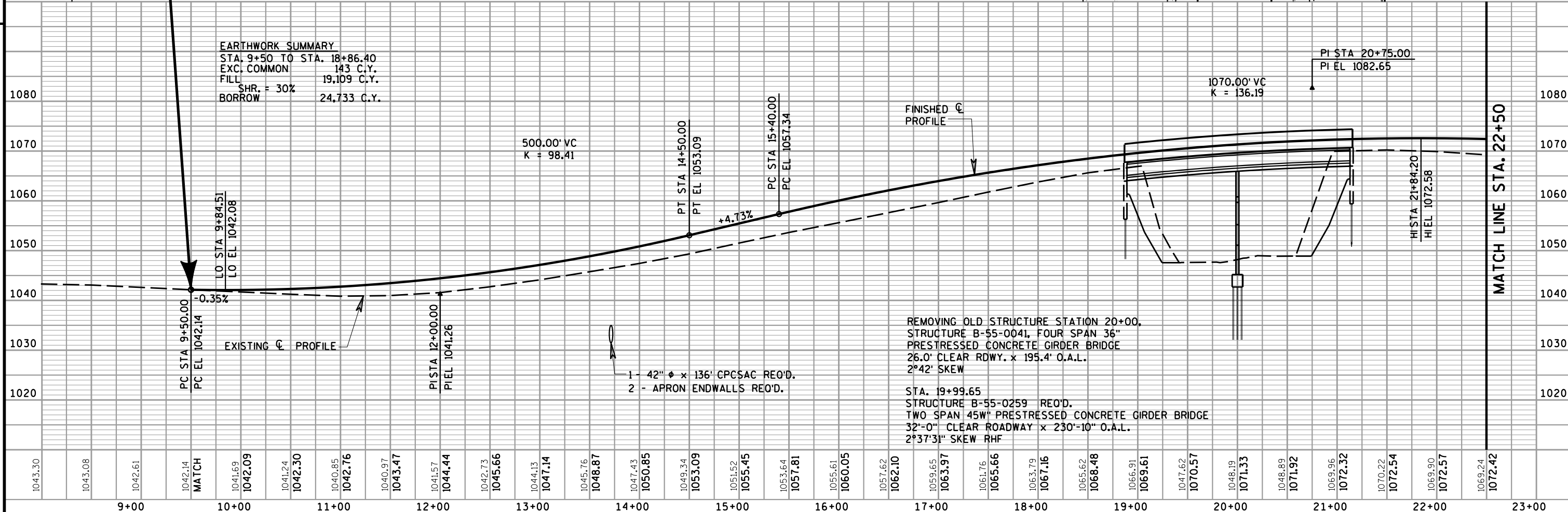
REMOVE CP
STA. 11+08, LT.
18" ϕ CPRC

CONSTRUCT PE
STA. 11+08, LT.
1 - 18" ϕ CPCSAC REQ'D.
L = 45'
2 - APRON ENDWALLS REQ'D.



BEGIN PROJECT
STA. 9+50
(SAWCUT REQUIRED)
Y = 329105.08
X = 581096.18

EARTHWORK SUMMARY
STA. 9+50 TO STA. 18+86.40
EXC. COMMON 143 C.Y.
FILL 19,109 C.Y.
SHR. = 30%
BORROW 24,733 C.Y.



REMOVING OLD STRUCTURE STATION 20+00.
STRUCTURE B-55-0041, FOUR SPAN 36"
PRESTRESSED CONCRETE GIRDER BRIDGE
26.0' CLEAR RDWY. x 195.4' O.A.L.
2°42' SKEW

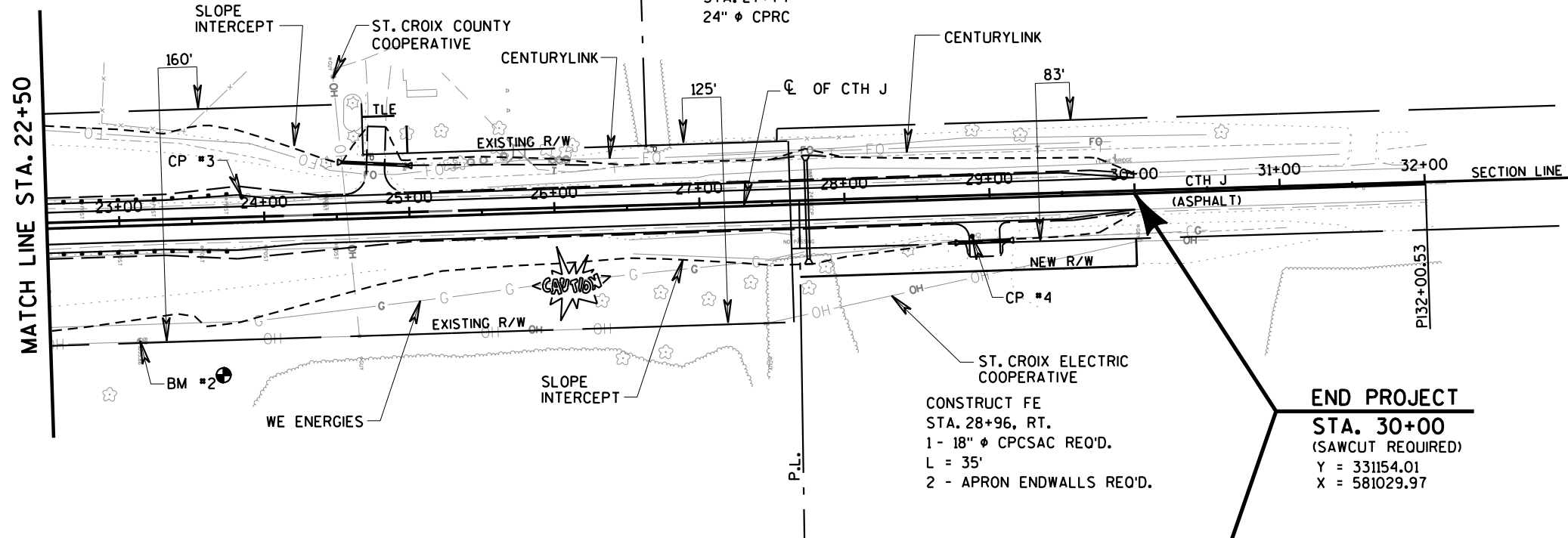
STA. 19+99.65
STRUCTURE B-55-0259 REQ'D.
TWO SPAN 45W" PRESTRESSED CONCRETE GIRDER BRIDGE
32'-0" CLEAR ROADWAY x 230'-10" O.A.L.
2°37'31" SKEW RHF

PROJECT NO: 1020-01-83 HWY: CTH J COUNTY: ST. CROIX PLAN AND PROFILE SCALE, FEET 0 50 100 SHEET 31 E

REMOVE CP
STA. 24+76, LT.
UNKNOWN SIZE & TYPE

CONSTRUCT PE
STA. 24+76, LT.
1 - 18" ϕ CPCSAC REQ'D.
L = 46'
2 - APRON ENDWALLS REQ'D.

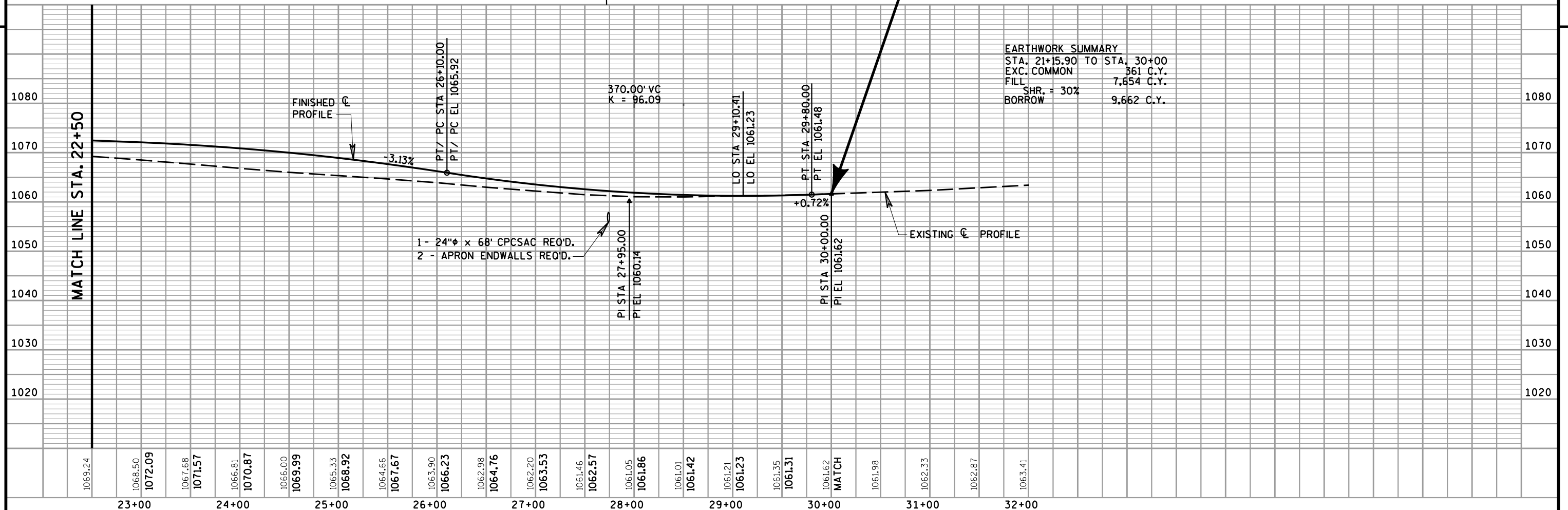
REMOVE CP
STA. 27+74
24" ϕ CPRC



END PROJECT
STA. 30+00
(SAWCUT REQUIRED)
Y = 331154.01
X = 581029.97

EARTHWORK SUMMARY

STA. 21+15.90 TO STA. 30+00
EXC. COMMON 361 C.Y.
FILL 7,654 C.Y.
SHR. = 30%
BORROW 9,662 C.Y.



PROJECT NO: 1020-01-83

HWY: CTH J

COUNTY: ST. CROIX

PLAN AND PROFILE

SCALE, FEET 0 50 100

SHEET 32

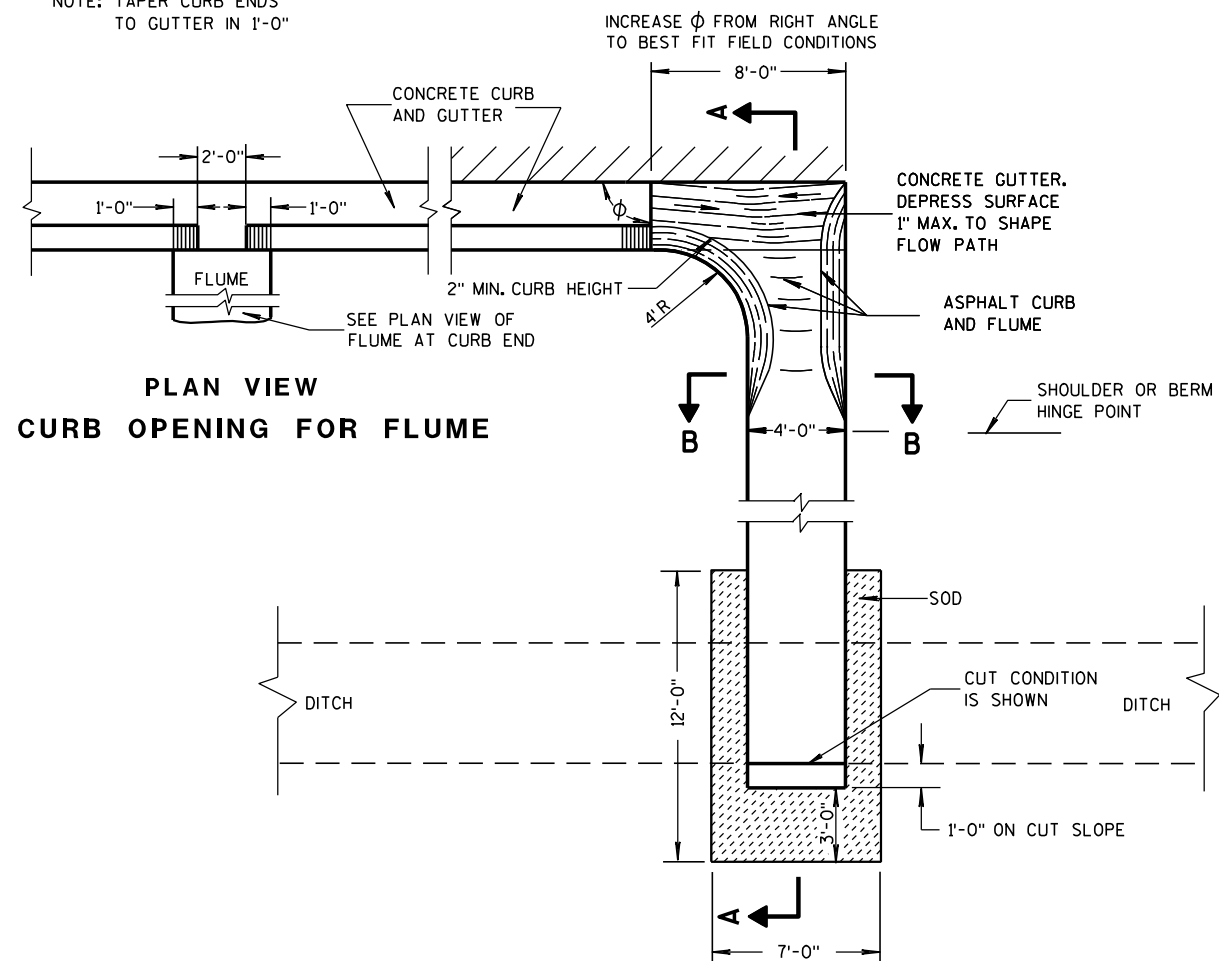
E

Standard Detail Drawing List

08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
12A03-10	NAME PLATE (STRUCTURES)
14B07-14A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B08-02A	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02B	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02C	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02D	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02E	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B42-03A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-02A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-04A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15B01-08A	FENCE WOVEN WIRE
15B01-08B	FENCE WOVEN WIRE
15C02-05A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C03-02	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C06-07	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-16A	PAVEMENT MARKING (MAINLINE)
15D12-05A	TRAFFIC CONTROL, LANE CLOSURE
15D12-05B	TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION
15D27-02	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D38-01A	TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS
15D38-01B	ATTACHMENT OF SIGNS TO POSTS

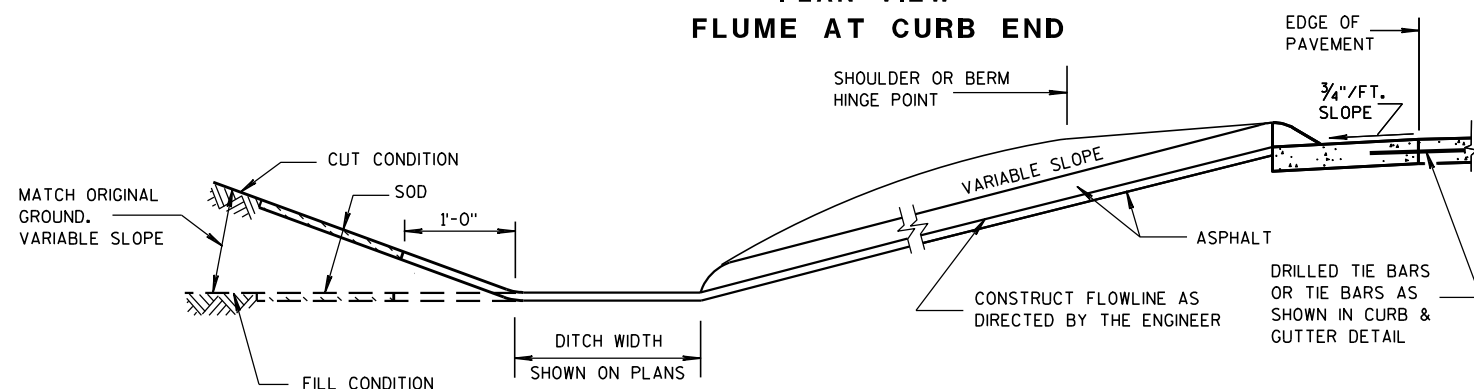
ASPHALTIC FLUME

NOTE: TAPER CURB ENDS
TO GUTTER IN 1'-0"

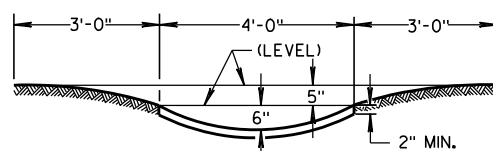


PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



SECTION A-A



SECTION B-B

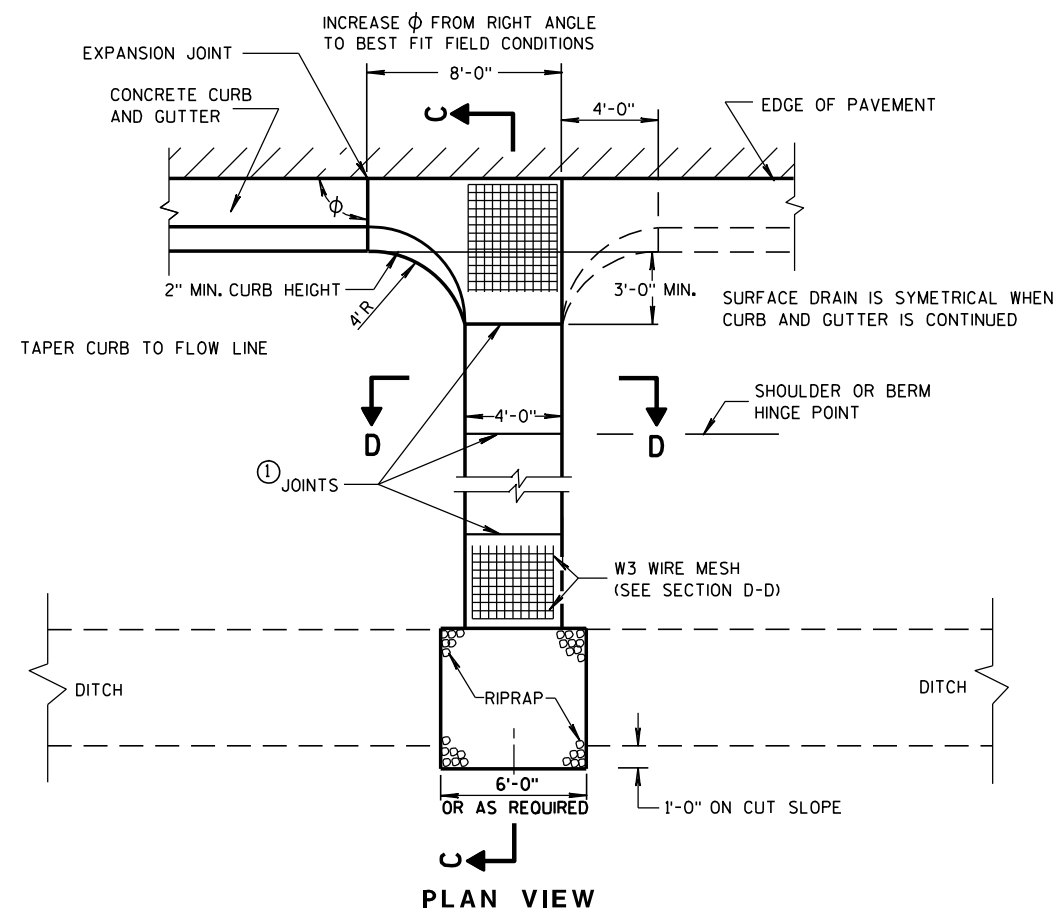
GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

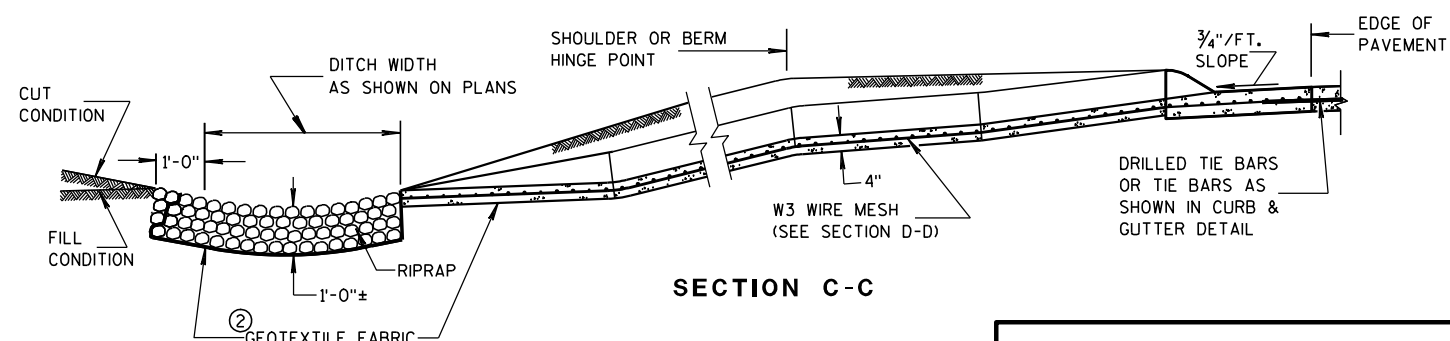
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

- ① JOINTS SHALL BE $\frac{1}{8}$ TO $\frac{1}{4}$ INCH WIDE BY $1\frac{1}{2}$ INCHES DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.
- ② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.
- ③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED

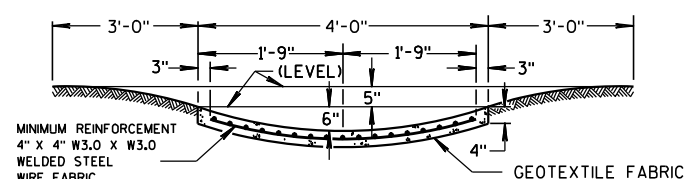
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



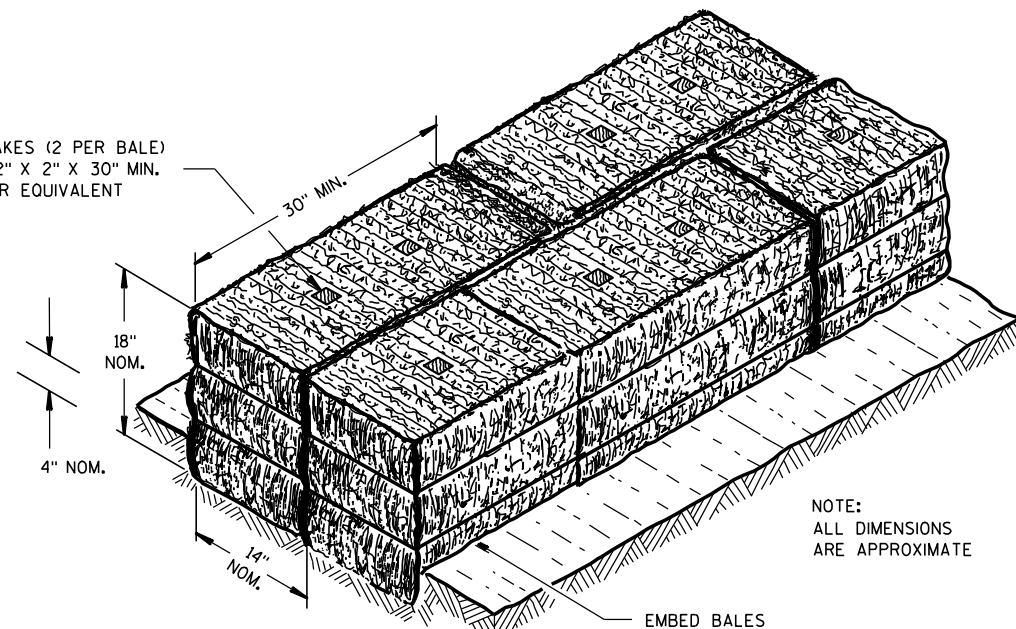
SECTION D-D

CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9-4-08 /S/ Jerry H. Zapp
DATE ROADWAY STANDARDS 34
FHWA ENGINEER

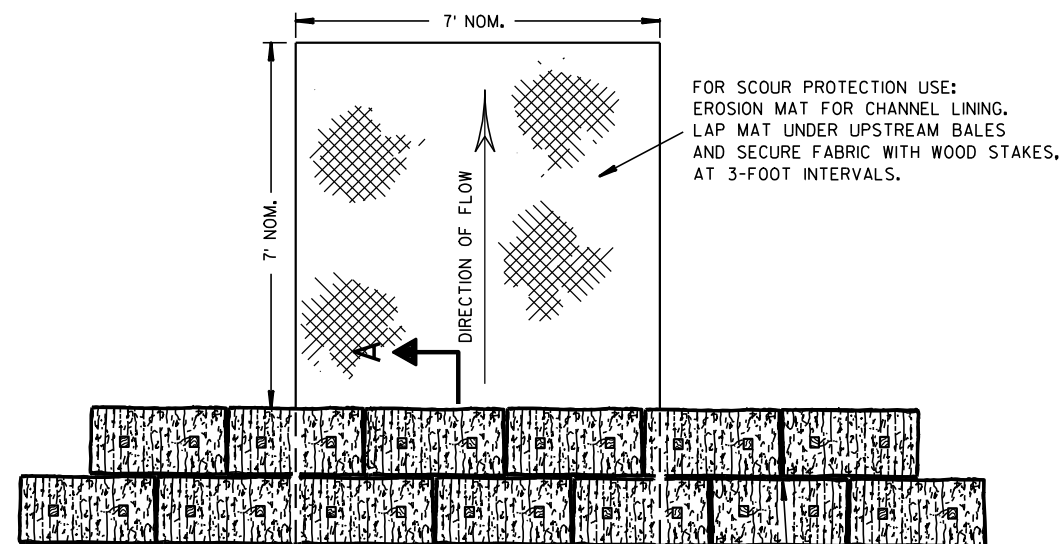
WOOD STAKES (2 PER BALE)
NOMINAL 2" X 2" X 30" MIN.
LENGTH OR EQUIVALENT



NOTE:
ALL DIMENSIONS
ARE APPROXIMATE

EMBED BALES

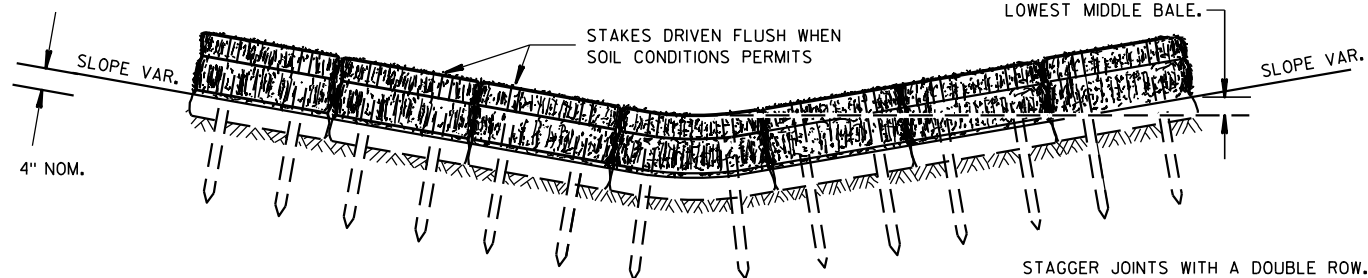
SECTION A-A



PLAN VIEW

STAGGER JOINTS BETWEEN ADJACENT
ROWS OF BALES.

BOTTOM ELEVATION OF END BALE SHALL
BE EQUAL TO OR GREATER THAN TOP OF
LOWEST MIDDLE BALE.



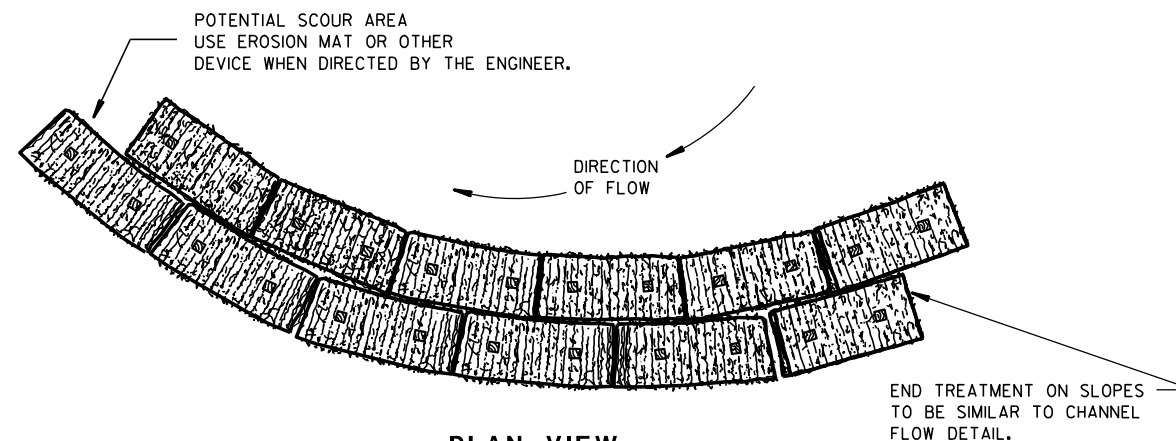
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

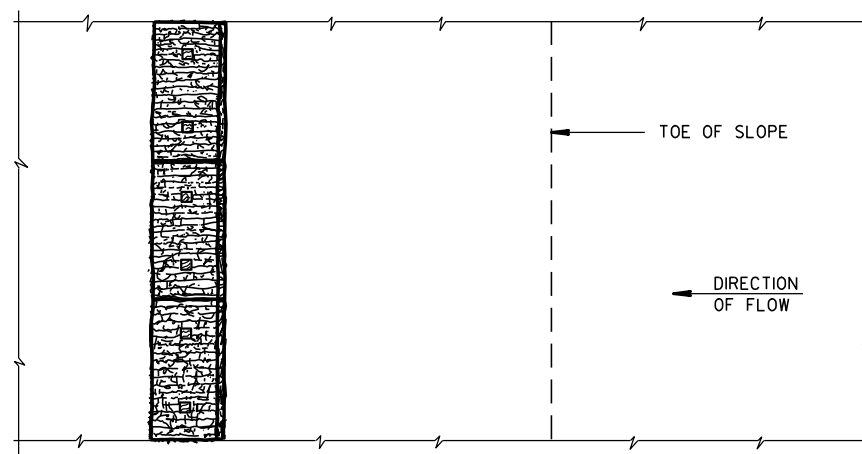
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

- ① TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

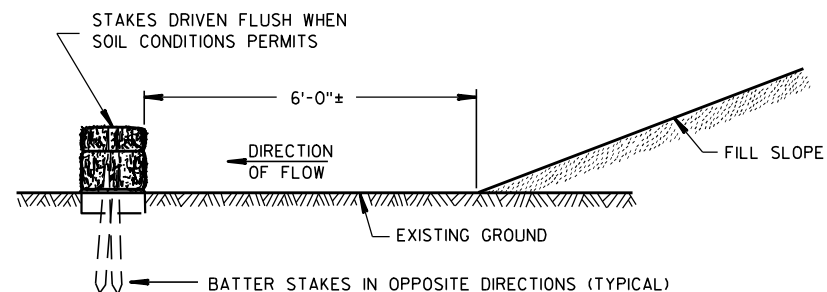


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

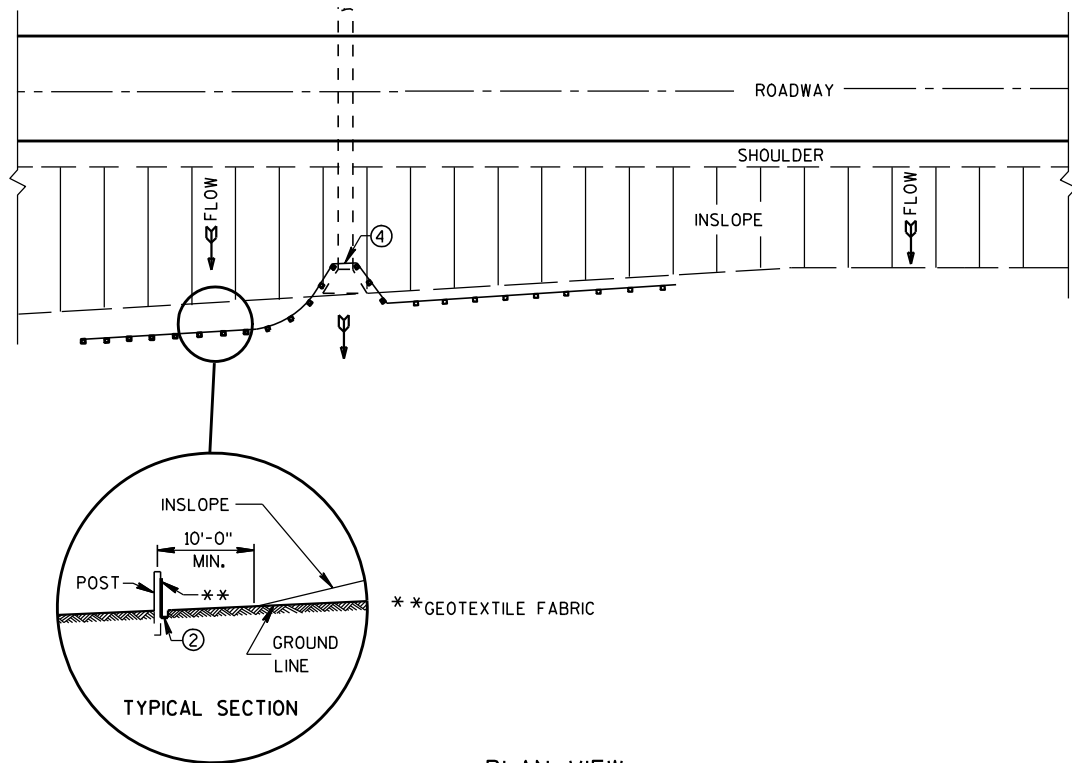
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

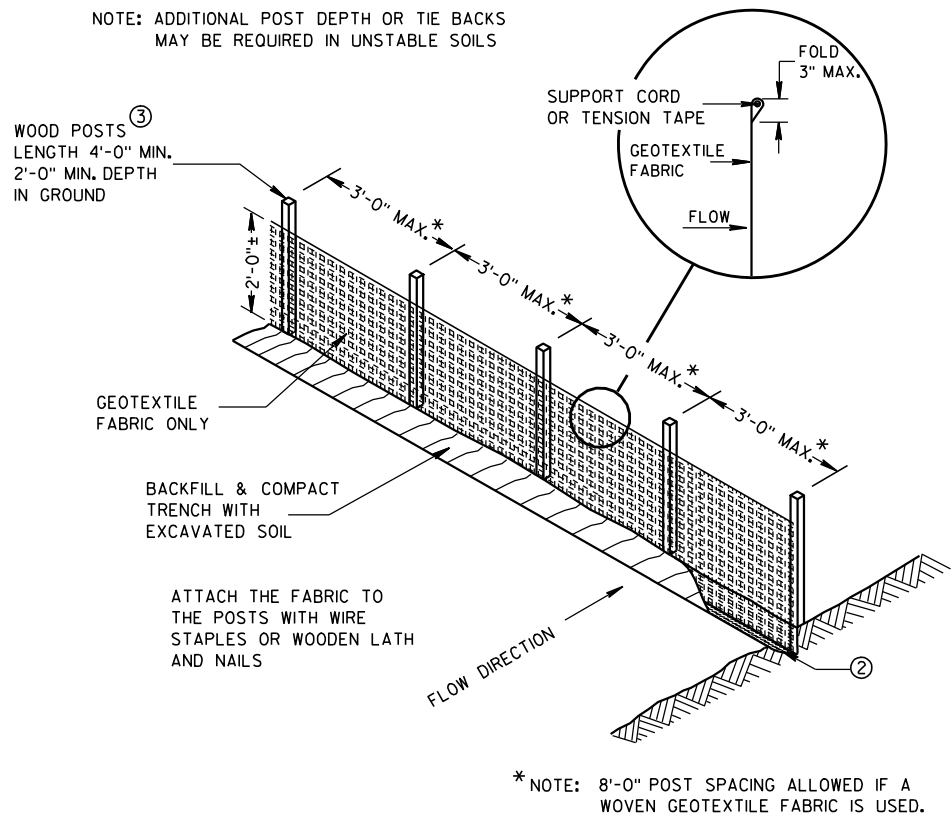
6/04/02
DATE

/S/ Beth Connors
CHIEF ROADWAY DEVELOPER 35 ENGINEER

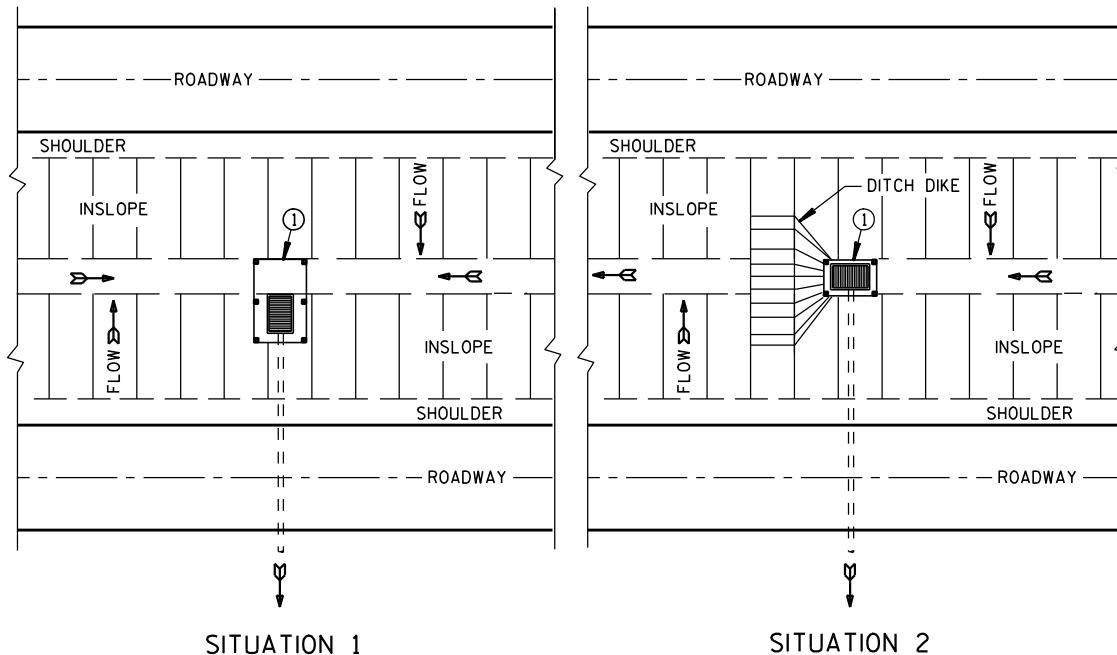
FHWA



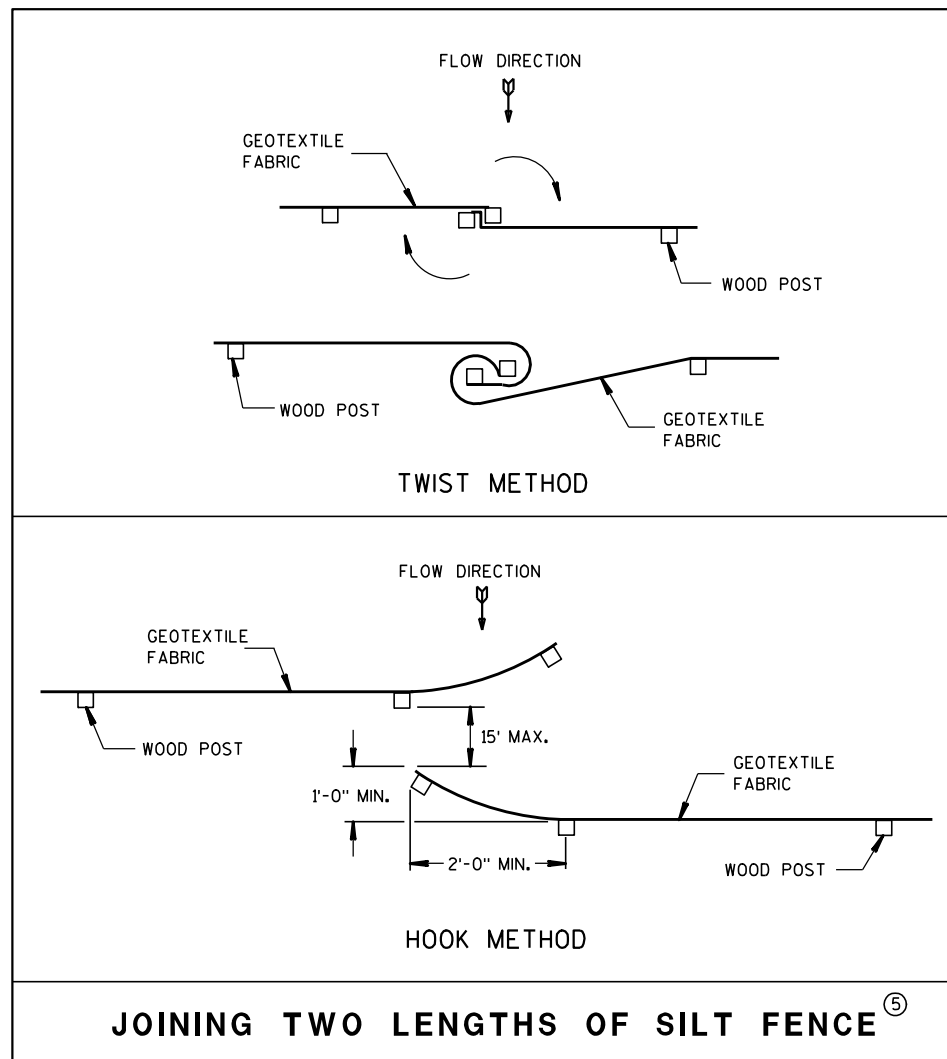
PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE



SILT FENCE



PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

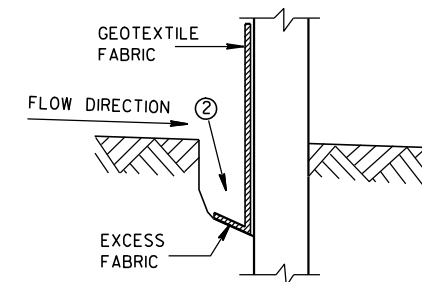


JOINING TWO LENGTHS OF SILT FENCE (5)

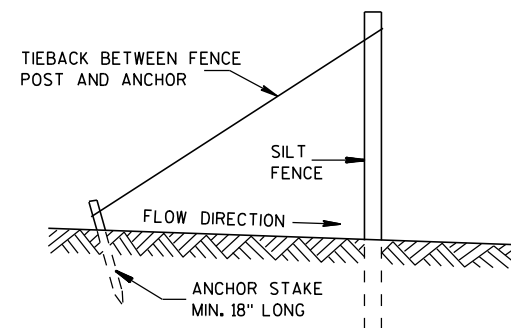
GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1 1/8" X 1 1/8" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



TRENCH DETAIL

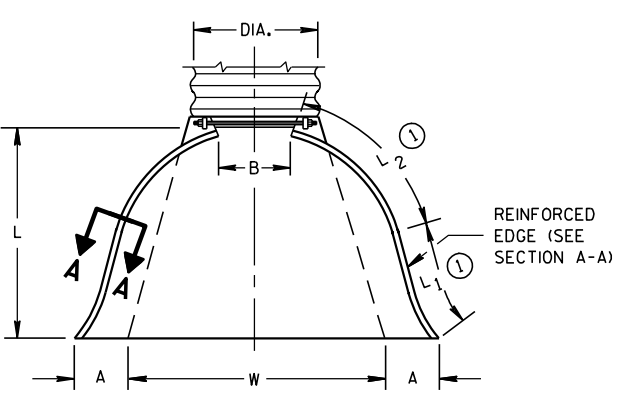


SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 4-29-05 DATE	/S/ Beth Conn CHIEF ROADWAY DEVELOPER 36 ENGINEER
FHWA	

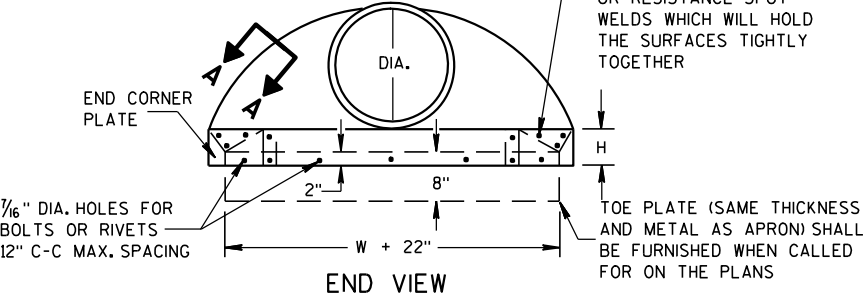
METAL APRON ENDWALLS												
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE		BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")			
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1		1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1		1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1		1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1		1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1		1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1		1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1		2 Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1		2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1		3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1		3 Pc.
60	.109x	.105x	18	33	12	87	—	—	114	2 to 1		3 Pc.
66	.109x	.105x	18	36	12	87	—	—	120	2 to 1		3 Pc.
72	.109x	.105x	18	39	12	87	—	—	126	2 to 1		3 Pc.
78	.109x	.105x	18	42	12	87	—	—	132	1 1/2 to 1		3 Pc.
84	.109x	.105x	18	45	12	87	—	—	138	1 1/2 to 1		3 Pc.
90	.109x	.105x	18	37	12	87	—	—	144	1 1/2 to 1		3 Pc.
96	.109x	.105x	18	35	12	87	—	—	150	1 1/2 to 1		3 Pc.

* EXCEPT CENTER PANEL
SEE GENERAL NOTES



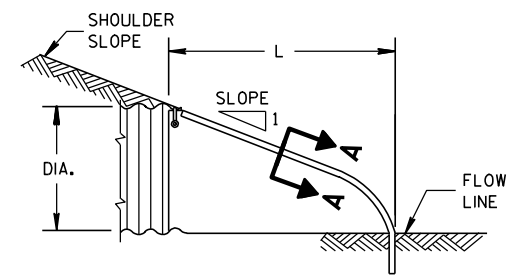
PLAN VIEW

REINFORCED
EDGE (SEE
SECTION A-A)



END VIEW

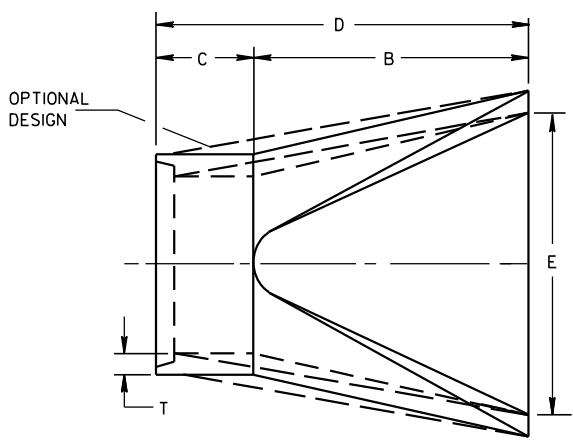
TOE PLATE (SAME THICKNESS
AND METAL AS APRON) SHALL
BE FURNISHED WHEN CALLED
FOR ON THE PLANS



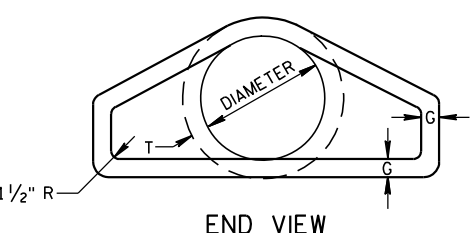
SIDE ELEVATION
METAL ENDWALLS

REINFORCED CONCRETE APRON ENDWALLS												
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE				
	T	A	B	C	D	E	G					
12	2	4	24	48 1/8	72 1/8	24	2	3 to 1				
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1				
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1				
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1				
24	3	9 1/2	43 1/2	30	73 1/2	48	3	3 to 1				
27	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	3 to 1				
30	3 1/2	12	54	19 3/4	73 1/2	60	3 1/2	3 to 1				
36	4	15	63	34 3/4	97 3/4	72	4	3 to 1				
42	4 1/2	21	63	35	98	78	4 1/2	3 to 1				
48	5	24	72	26	98	84	5	3 to 1				
54	5 1/2	27	65	33 1/4-35	98 1/4-100	90	5 1/2	2 1/2 to 1				
60	6	30-35	60	39	99	96	5	2 to 1				
66	6 1/2	24-30	72-78	21-27	99	102	5 1/2	2 to 1				
72	7	24-36	78	21	99	108	6	2 to 1				
78	7 1/2	24-36	78	21	99	114	6 1/2	2 to 1				
84	8	36	90 1/2	21	111 1/2	120	6 1/2	1 1/2 to 1				
90	8 1/2	41	87 1/2	24	111 1/2	132	6 1/2	1 1/2 to 1				

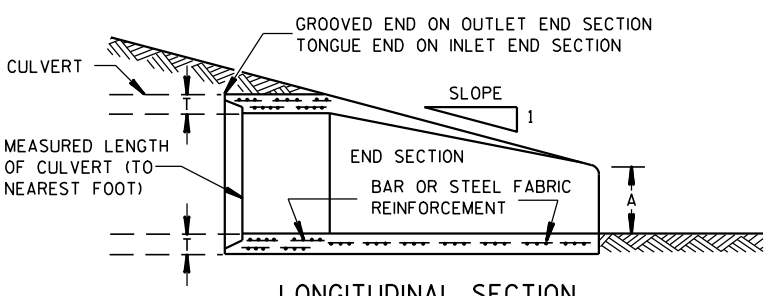
* MINIMUM
** MAXIMUM



PLAN

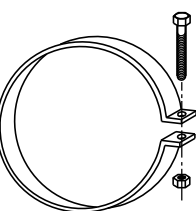


END VIEW

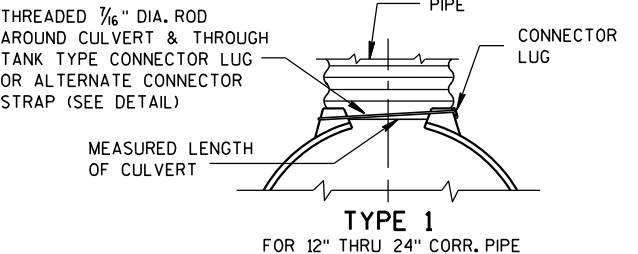


LONGITUDINAL SECTION
CONCRETE ENDWALLS

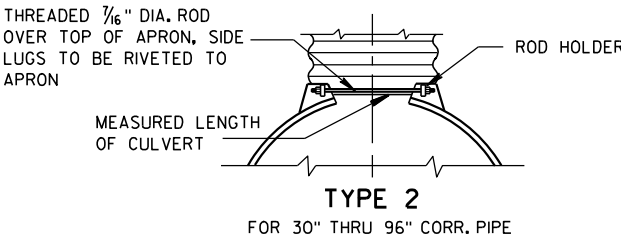
1" WIDE, 12 GA. (0.109"
THICK) GALVANIZED STRAP
WITH STANDARD 6" X 1/2"
BAND BOLT AND NUT



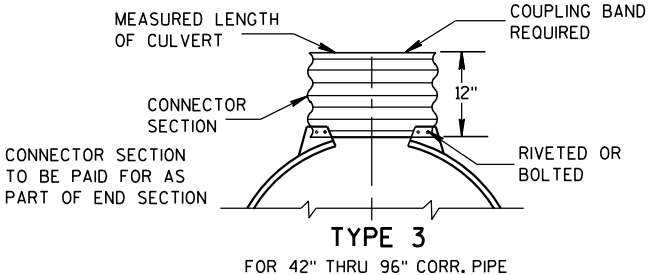
ALTERNATE FOR TYPE 1 CONNECTION
END SECTION CONNECTOR STRAP



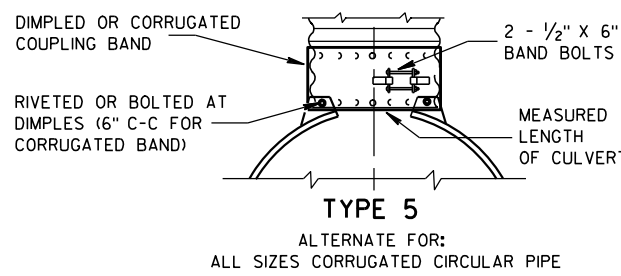
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

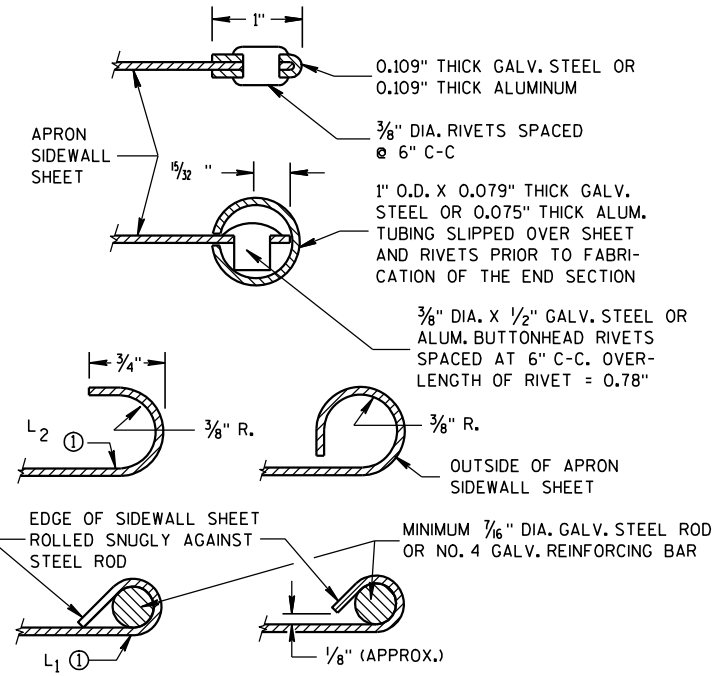
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL,
AND CORRUGATED BAND FITS INSIDE ENDWALL.
DIMPLED BAND MAY BE USED WITH HELICALLY
CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE
ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5
AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL
CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO
CIRCUMFERENTIAL CORRUGATIONS AT EACH END
USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON
THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE
STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL
OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR
ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE
OF THE SAME METAL.

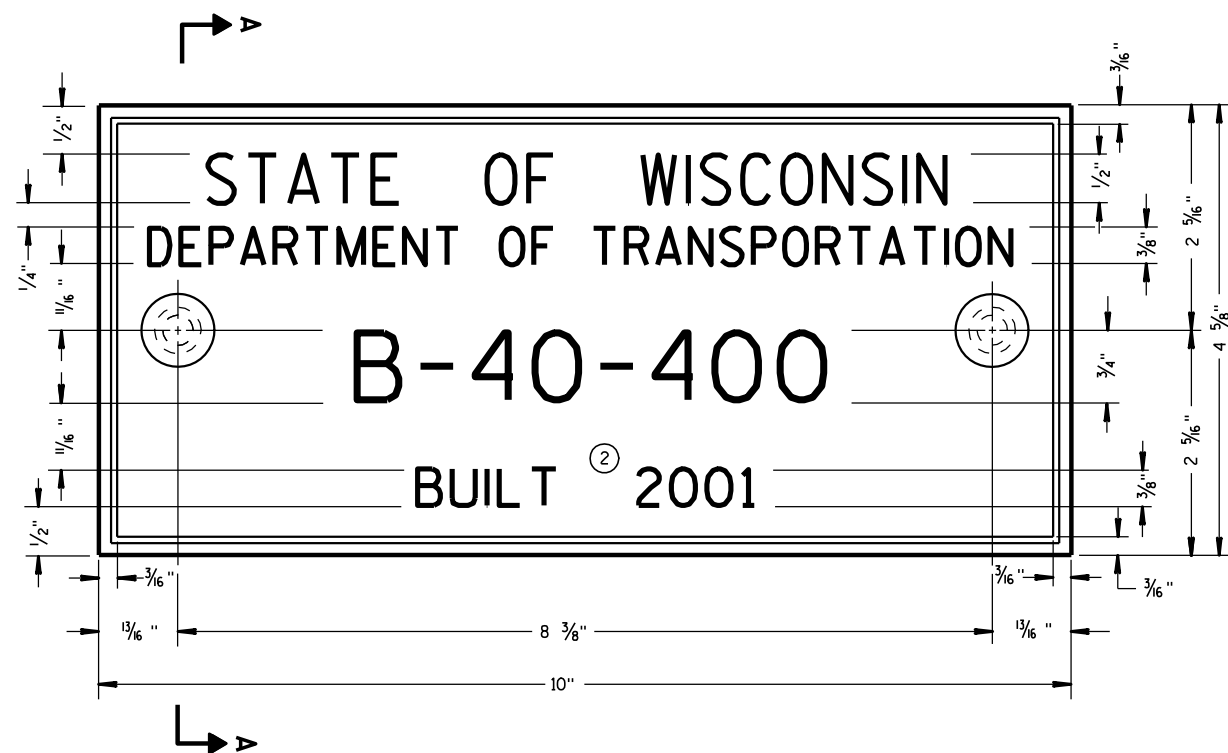
ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND
LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL
THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND
LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH
OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE
PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS
FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS.
FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED
EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH
GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE
ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM
NUTS AND BOLTS FOR ALUMINUM UNITS.

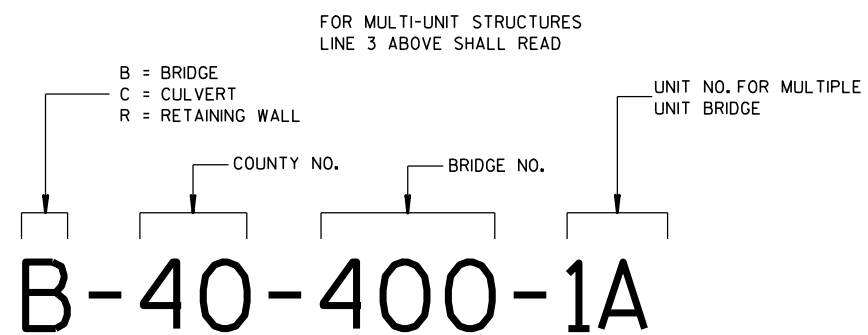
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT
TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT
TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED
INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
APPROVED	11/30/94	/S/ Rory L. Rhinehart	NEER
	DATE	CHIEF ROADWAY DEVELOP	
FHWA			



TYPICAL NAME PLATE
(BRIDGES, CULVERTS, AND RETAINING WALLS)



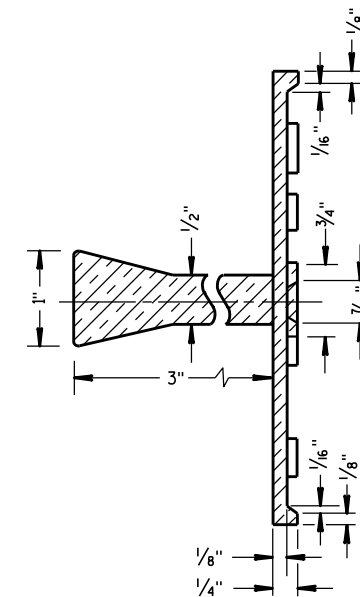
**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

GENERAL NOTES

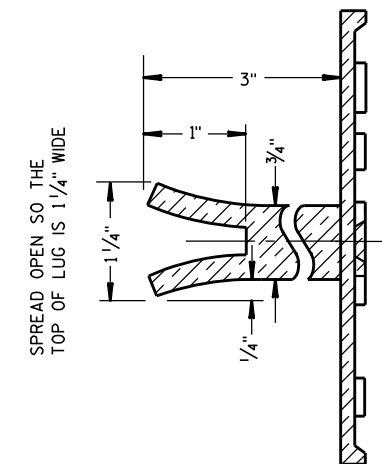
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

- ① EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ② REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.

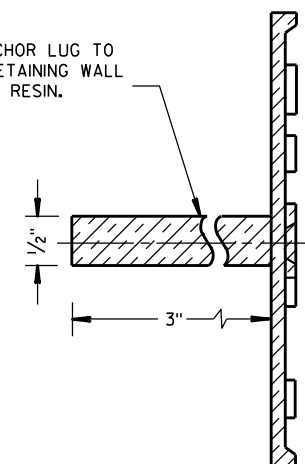


SECTION A-A



ALTERNATE LUG

- ① ADHERE ANCHOR LUG TO PRECAST RETAINING WALL WITH EPOXY RESIN.



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE
(STRUCTURES)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

DATE

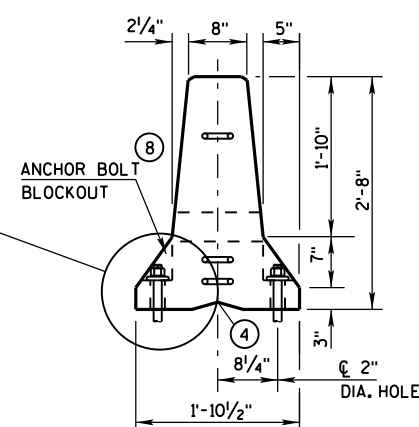
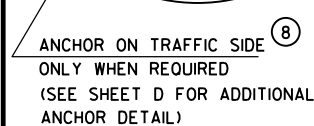
3/26/10

FHWA

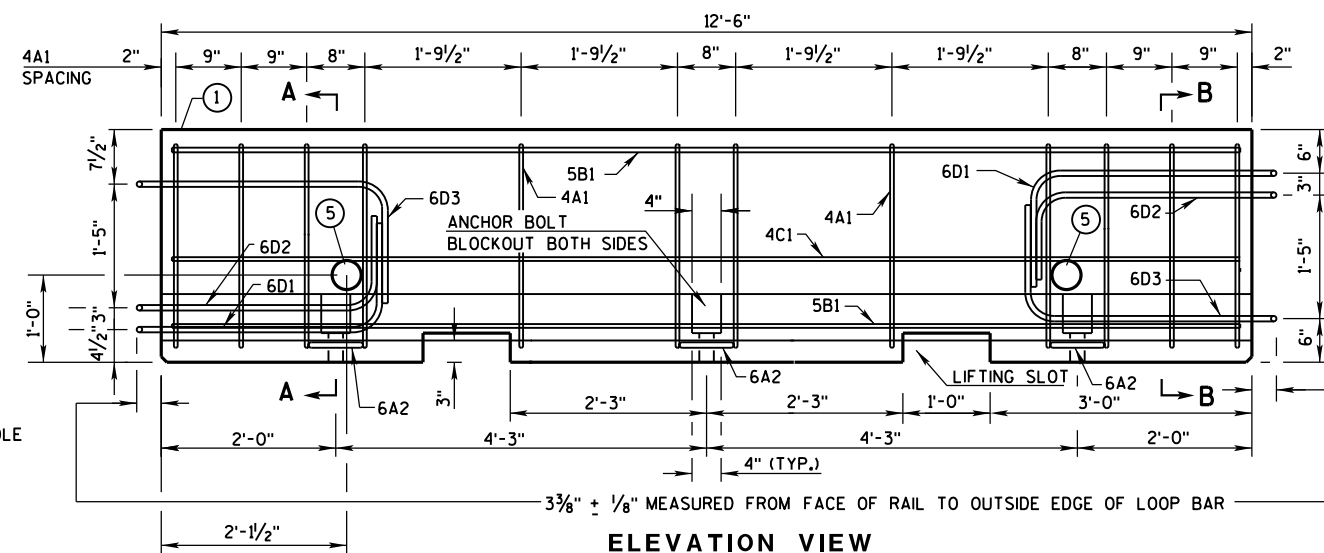
CHIEF STRUCTURAL DEVELOPER

39

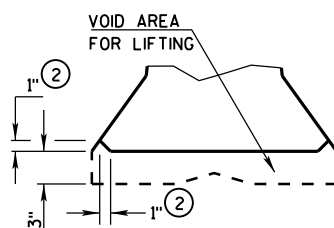
JEER



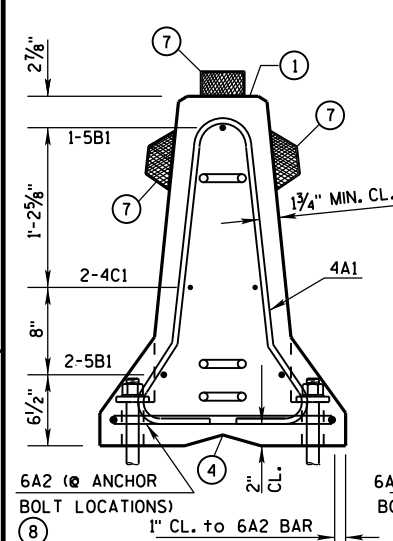
END VIEW



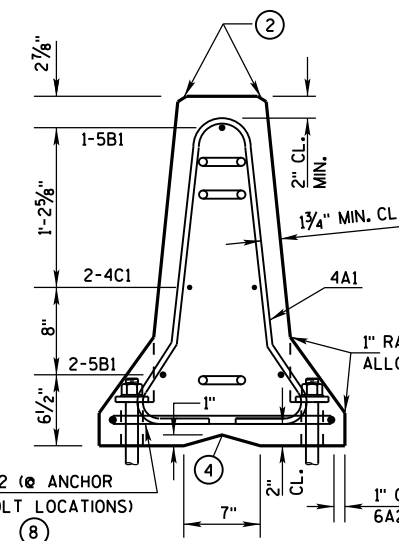
ELEVATION VIEW



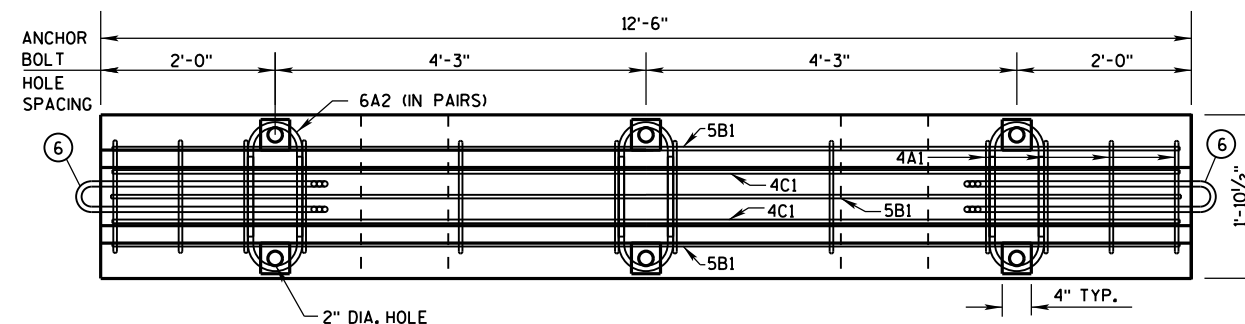
DETAIL "B"
LIFTING SLOT DETAIL



SECTION A-A
(STIRRUP PLACEMENT)

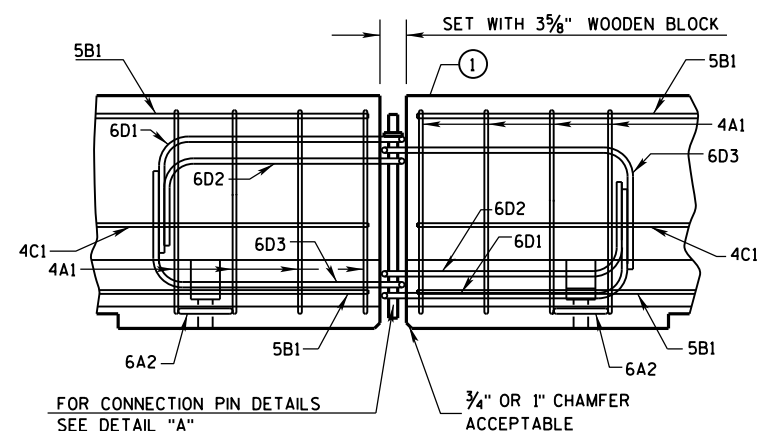


SECTION B-B
(STIRRUP PLACEMENT)

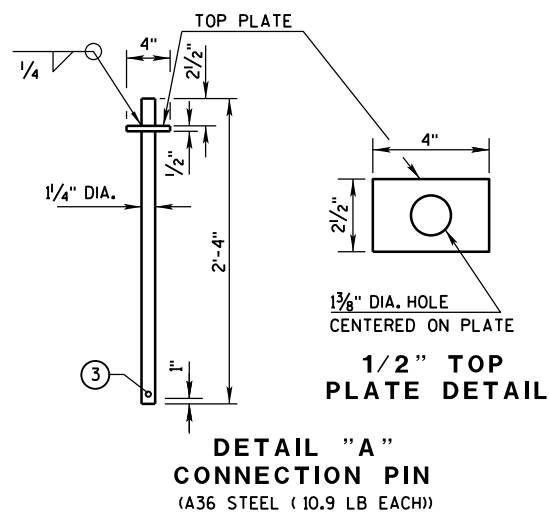


PLAN VIEW

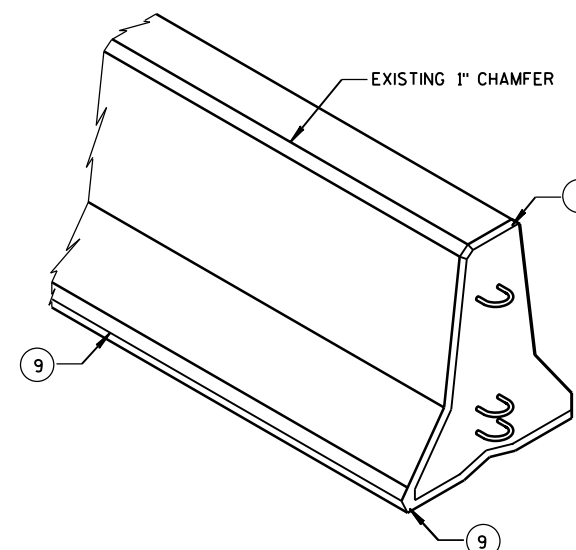
DETAILS OF BARRIER SECTION



DETAILS OF BARRIER CONNECTION



DETAIL "A"
CONNECTION PIN
(A36 STEEL (10.9 LB EACH))



GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-14(d) THRU 14B7-14(h).

DO NOT INTERMIX CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" (CBTP12.5) WITH OTHER TEMPORARY CONCRETE BARRIERS.

USE ASTM A-615, GRADE 60, DEFORMED STEEL BARS FOR BARS 4A1, 6A2, 5B1 AND 4C1 IN THE BARRIER SECTION AND FOR 4V1, 4V2, 4V3, 4V4, 4V5, 4V6, 4F1, 4F2 AND 5F3 IN THE BARRIER TAPER SECTION.

LOOP BARS 6D1, 6D2 AND 6D3 SHALL BE $\frac{3}{4}$ " SMOOTH STEEL BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A TENSILE STRENGTH OF NOT LESS THAN 1.25 TIMES THE YIELD STRENGTH BUT A MINIMUM OF 80 KSI, A MINIMUM 14% ELONGATION IN 8 INCHES AND PASSING A 180 DEGREE BEND TEST USING A 3- $\frac{1}{2}$ " PIN BEND DIAMETER FOR BEND TESTS. THE LOOPS SHALL BE INSTALLED WITHIN $\frac{1}{8}$ " OF THE PLAN DIMENSION.

CONSTRUCT LIFTING SLOTS AS SPECIFIED ON THE PLANS TO FACILITATE THE DRAINAGE OF WATER AFTER INSTALLATION.

PLACE BARRIER ON A PAVED SURFACE. REMOVE ALL LOOSE DIRT AND SAND FROM THE ROADWAY SURFACE PRIOR TO PLACEMENT OF THE BARRIER.

INSTALL MECHANICAL OR ADHESIVE ANCHORS PER MANUFACTURER'S RECOMMENDATIONS.
PROVIDE MANUFACTURER'S INFORMATION TO PROJECT ENGINEER.

- ① MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
 - a. TYPE: WICBTP
 - b. MANUFACTURER
 - c. DATE MANUFACTURED (MONTH AND YEAR)
- ② 1" CHAMFER TO PREVENT SPALLING.
- ③ A $\frac{3}{8}$ " HOLE IN THE CONNECTION PIN, AT THE LOCATION SHOWN, IS ACCEPTABLE, BUT NOT REQUIRED..
- ④ "V" NOTCH IS OPTIONAL.
- ⑤ THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).
- ⑥ NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.
- ⑦ USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURES INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED TO THE RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART. PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO THE SIDE MOUNTED DELINEATORS ON ALL BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAN 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.
- ⑧ SEE SHEET D FOR ANCHORING CRITERIA.
- ⑨ 1" CHAMFER OPTIONAL.

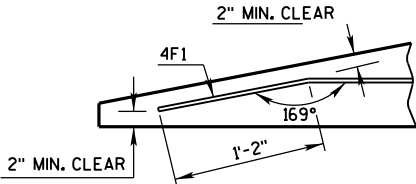
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION⁴⁰

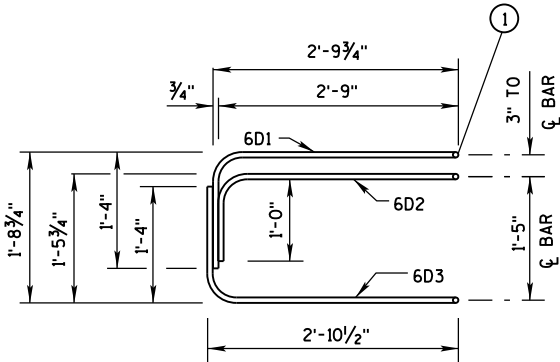
BARRIER TAPER SECTION
BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

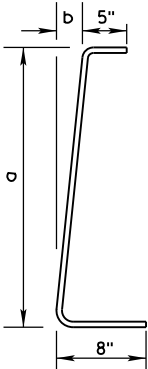
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



DETAIL "C"
BENT BAR DETAIL



ELEVATION
LOOP BAR ASSEMBLY



4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

BAR	a	b
V1	10"	1"
V2	1'-1"	1 1/4"
V3	1'-5"	1 5/8"
V4	1'-8"	1 7/8"
V5	2'-0 1/2"	2 3/8"
V6	2'-3"	2 3/4"

TAPER BARRIER SECTION

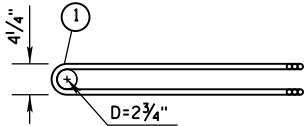
GENERAL NOTES

① NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

BARRIER SECTION
BILL OF MATERIALS

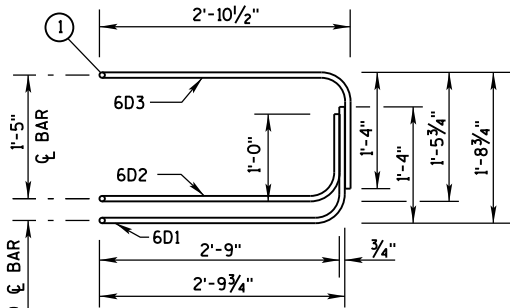
(PER 12'-6" BARRIER SECTION)

BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"

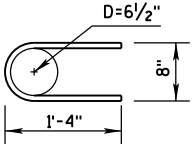


PLAN VIEW
LOOP BAR ASSEMBLY

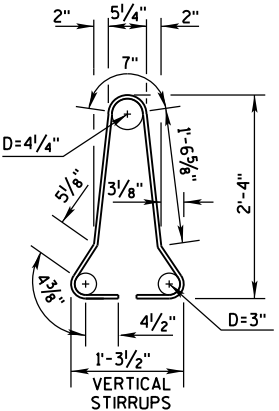
(MARKED END SHOWN, INVERT FOR OTHER END)



ELEVATION VIEW



6A2

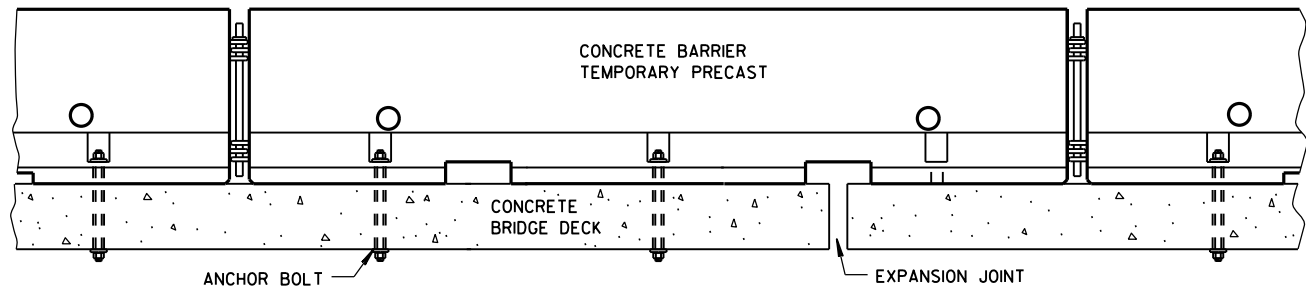
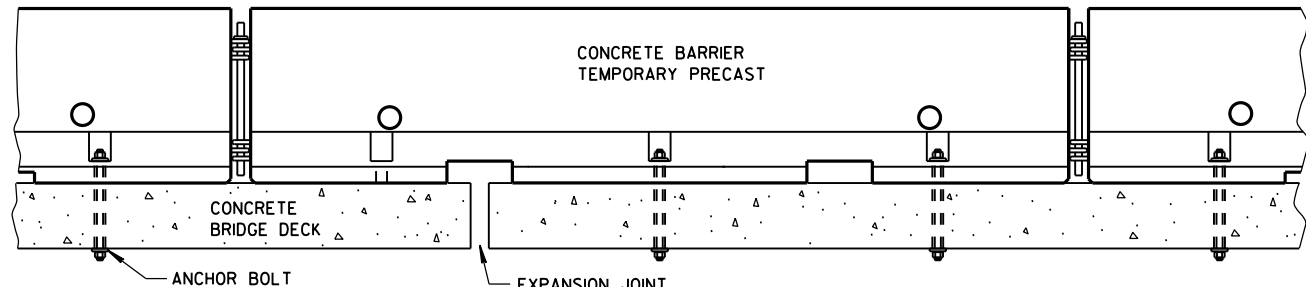


4A1

BARRIER SECTION

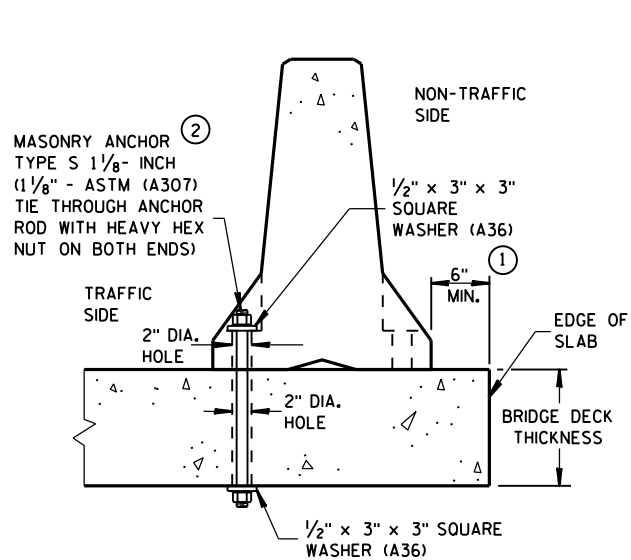
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



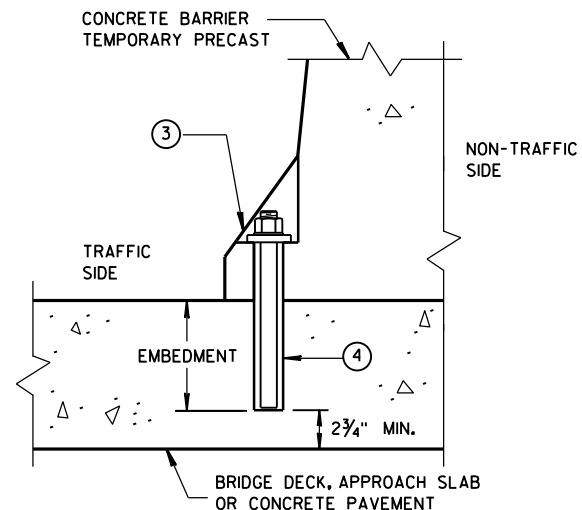
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(NO SINGLE CONCRETE BARRIER SECTION SHALL BE ANCHORED TO BOTH THE BRIDGE DECK AND THE APPROACH SLAB. ALL ANCHOR BOLT LOCATIONS SHALL BE ANCHORED TO THE DECK IN ACCORDANCE WITH THE DETAIL. NO MORE THAN ONE ANCHOR BOLT SHALL BE ELIMINATED FROM A BARRIER SECTION WHEN SPANNING AN EXPANSION JOINT.)



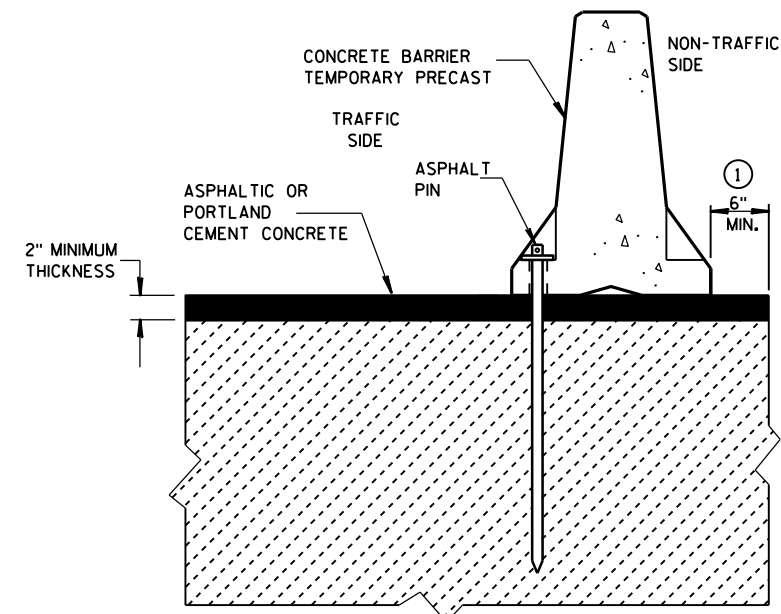
THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOT USE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)



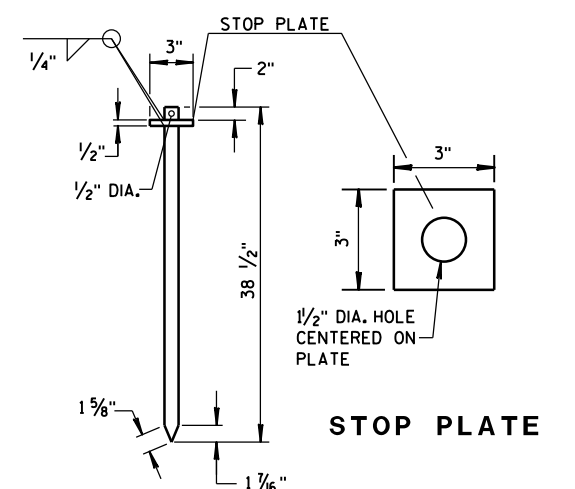
REMOVABLE ADHESIVE BONDED ANCHOR INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)

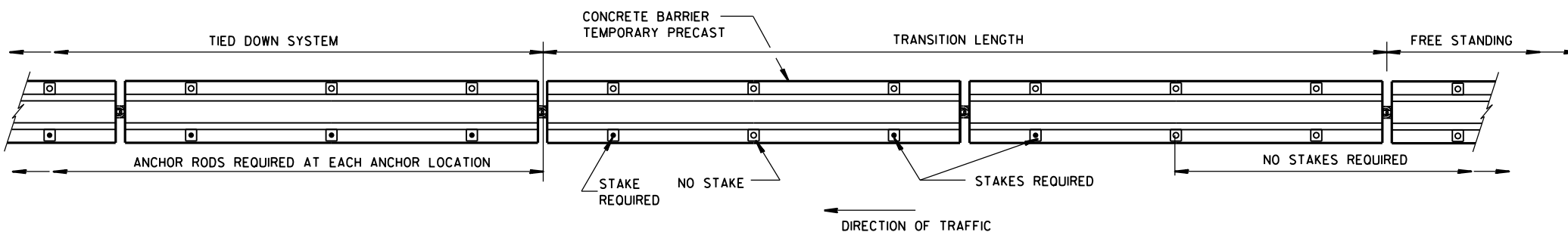


STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



ASPHALT PIN (ASTM A36 STEEL)



PLAN VIEW

FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

GENERAL NOTES

- ① CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" SHALL BE ANCHORED IF:
THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V,
FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT,
IS LESS THAN 4 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF
AND THE POSTED SPEED IS 45 MPH OR GREATER, OR

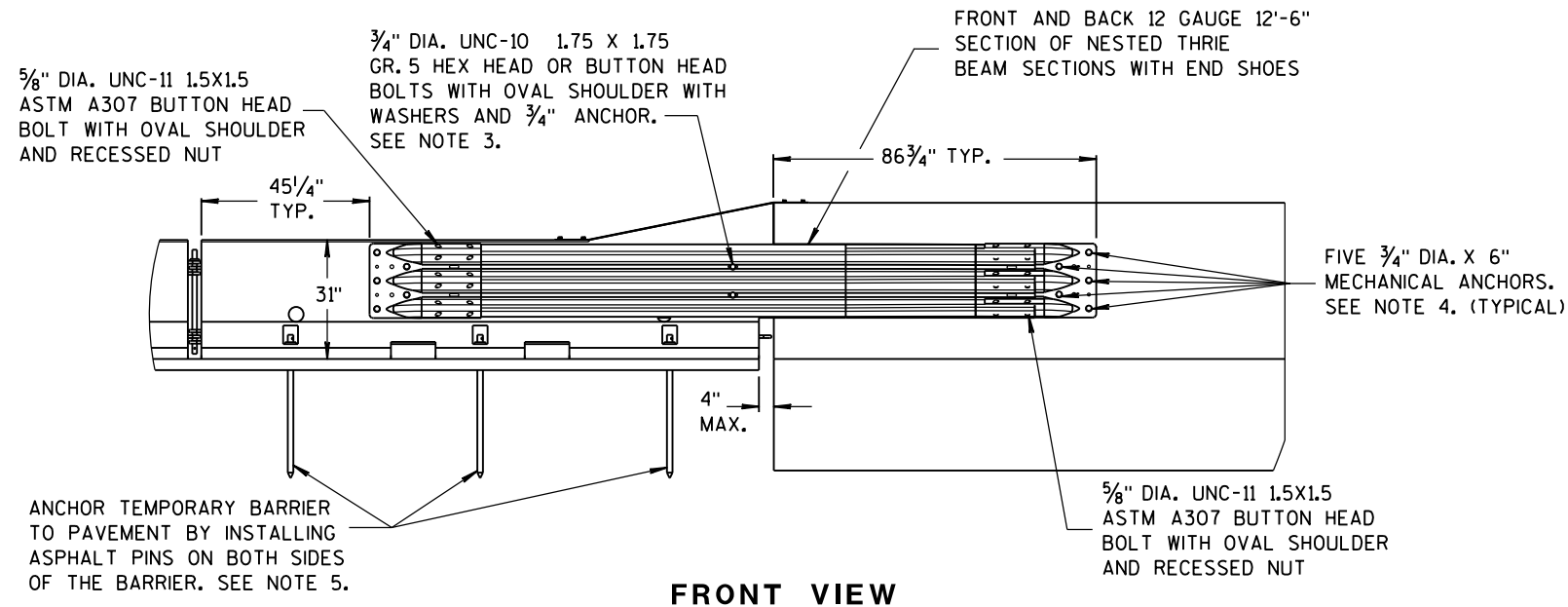
THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V,
FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT,
IS LESS THAN 2 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF
AND THE POSTED SPEED IS 40 MPH OR LESS.
- ② ANCHORING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST.

WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED ANCHOR BOLT
INSTALLATION MAY BE USED IN LIEU OF THROUGH BOLTED ANCHOR INSTALLATION. THE ADHESIVE
BONDED ANCHOR BOLT MUST BE REMOVABLE. USE ASTM (A307) MASONRY ANCHORS TYPE
S 1 1/8"-INCH, EMBEDDED TO A DEPTH SUFFICIENT TO DEVELOP THE ULTIMATE CAPACITY OF THE
ANCHOR BOLT AND PROVIDE DOCUMENTATION TO CONFIRM THIS.

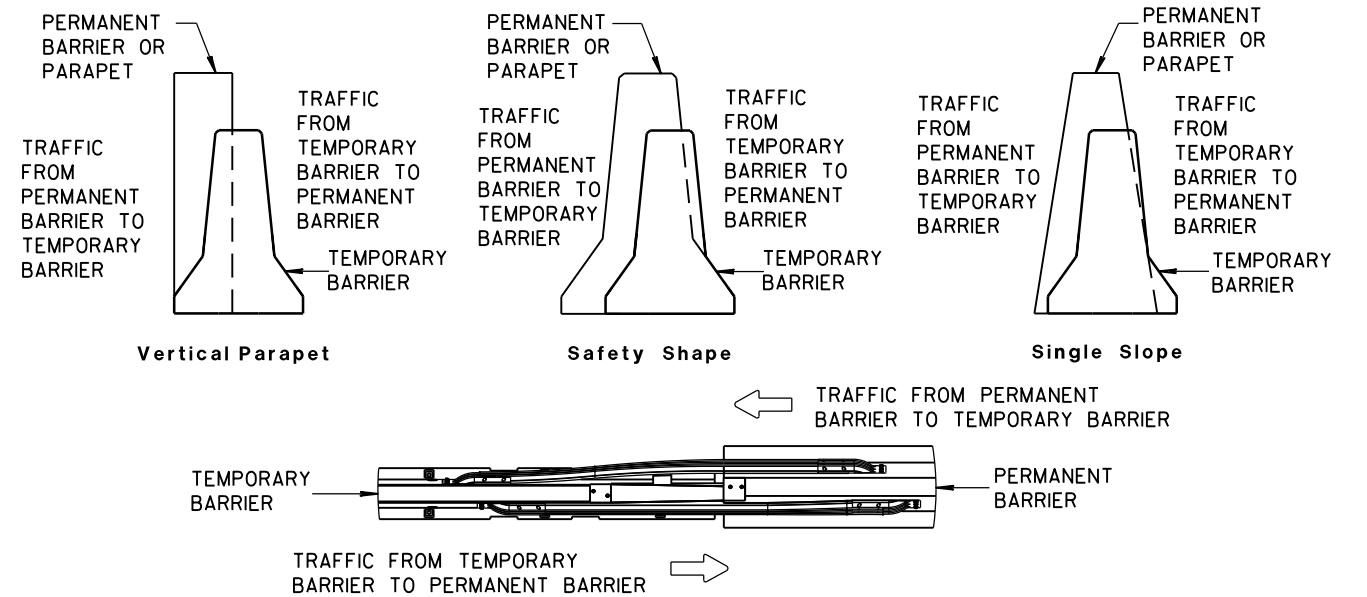
UPON REMOVAL OR RELOCATION OF THE BARRIER UNITS, REMOVE ALL ANCHOR BOLTS AND COMPLETELY
FILL IN THE REMAINING HOLES IN CONCRETE BRIDGE DECKS, CONCRETE APPROACH SLABS AND CON-
CRETE PAVEMENTS THAT ARE TO REMAIN, WITH A NON-SHRINK COMMERCIAL GROUT OR MATERIAL
IDENTIFIED ON THE CURRENT WISDOT APPROVED PRODUCTS LIST.
- ③ 1/8" DIAMETER A307 THREADED ROD, 1/2" x 3" x 3" SQUARE PLATE WASHER WITH ASTM A36 STEEL,
ASTM A563A HEAVY HEX NUT.
- ④ ADHESIVE ANCHORS WITH A MINIMUM BOND STRENGTH OF 1,800 PSI AND 5/4" EMBEDMENT. SEE 603.2
AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION⁴³



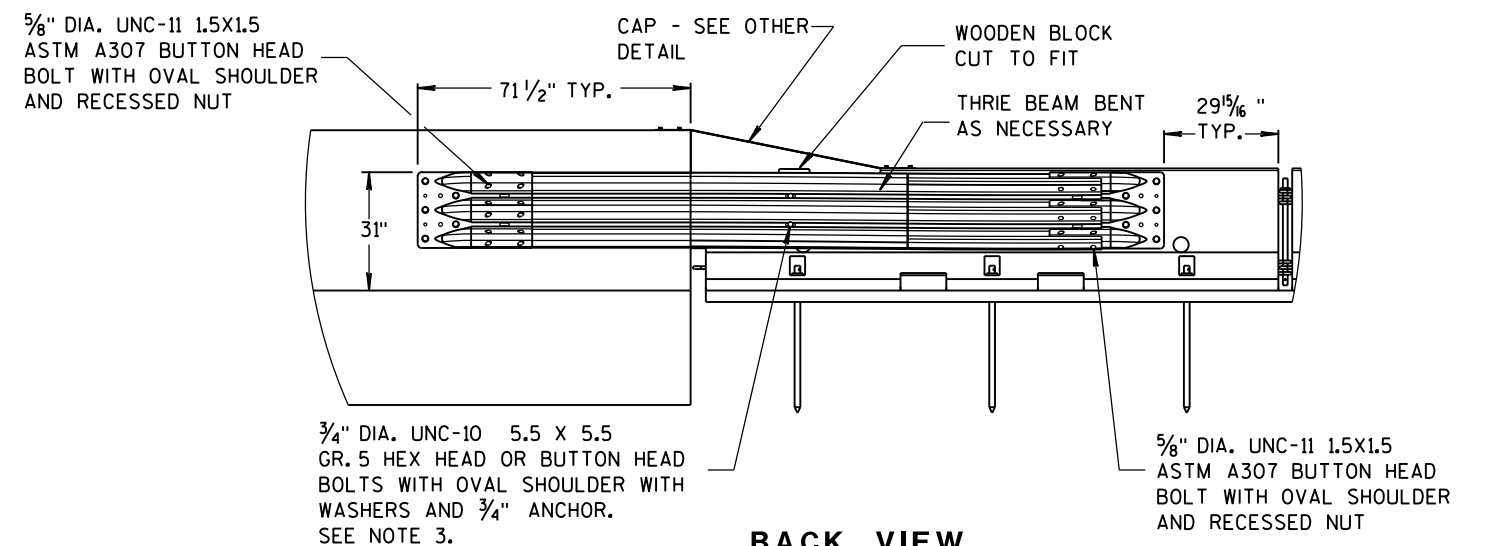
FRONT VIEW



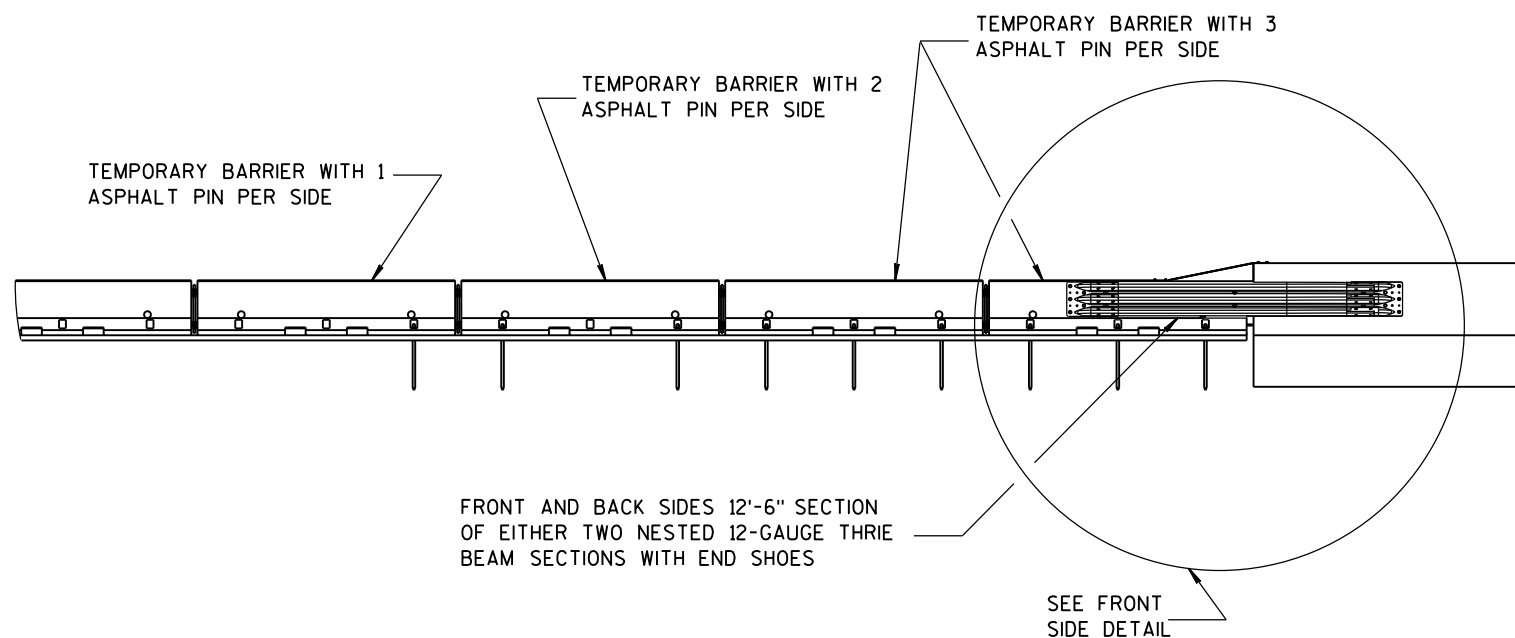
TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

NOTES

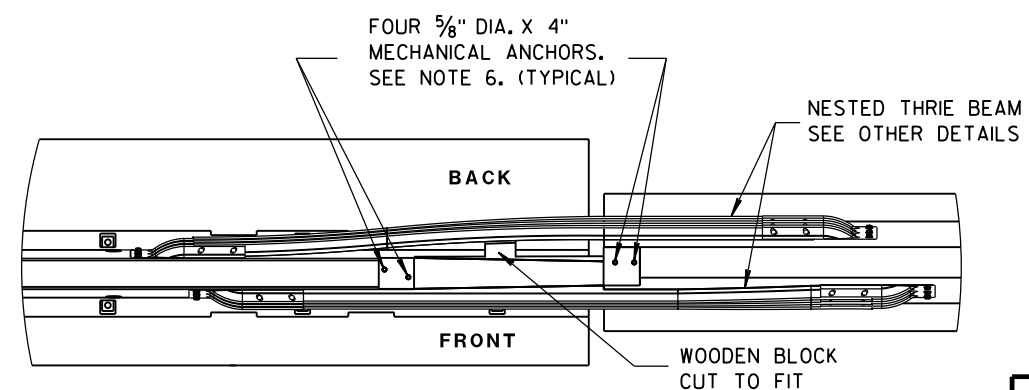
1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS.
4. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS.
5. MAY BE USED ON CONCRETE OR ASPHALT PAVEMENTS. ASPHALT OPTION SHOWN. FOR CONCRETE OPTION SEE OTHER DETAILS.
6. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.



BACK VIEW



FRONT VIEW

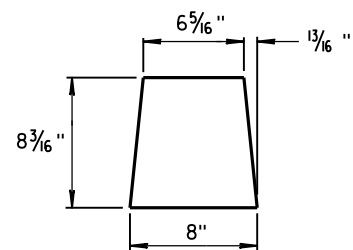


PLAN VIEW

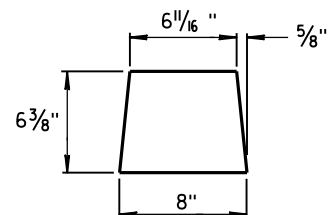
BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

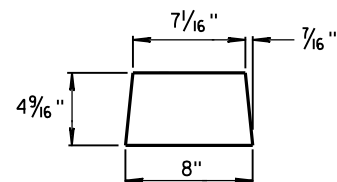
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



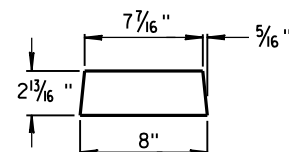
GUSSET 1



GUSSET 2

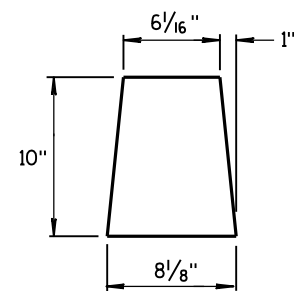


GUSSET 3

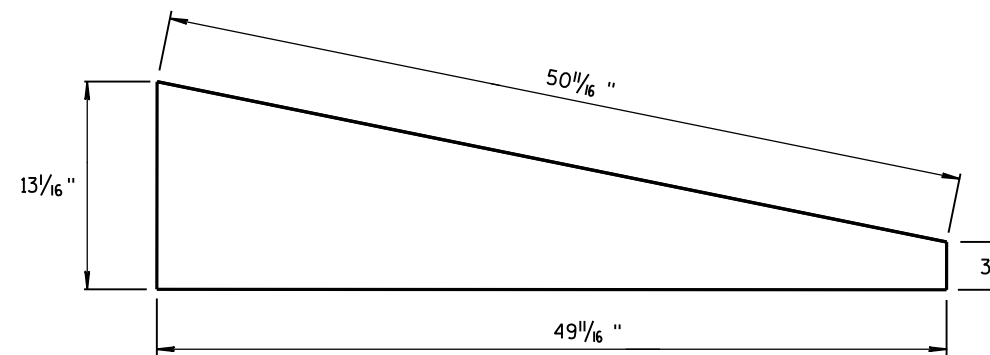


GUSSET 4

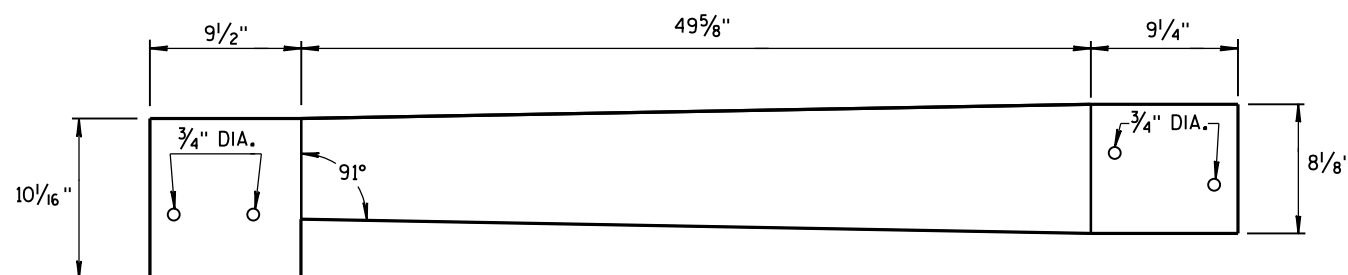
GUSSETS



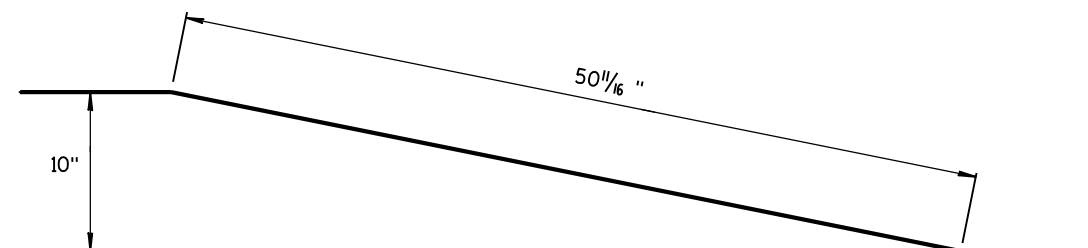
END PLATE



SIDE PLATE

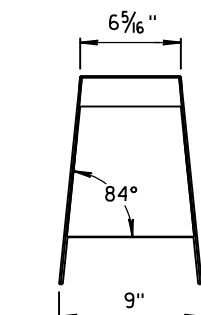
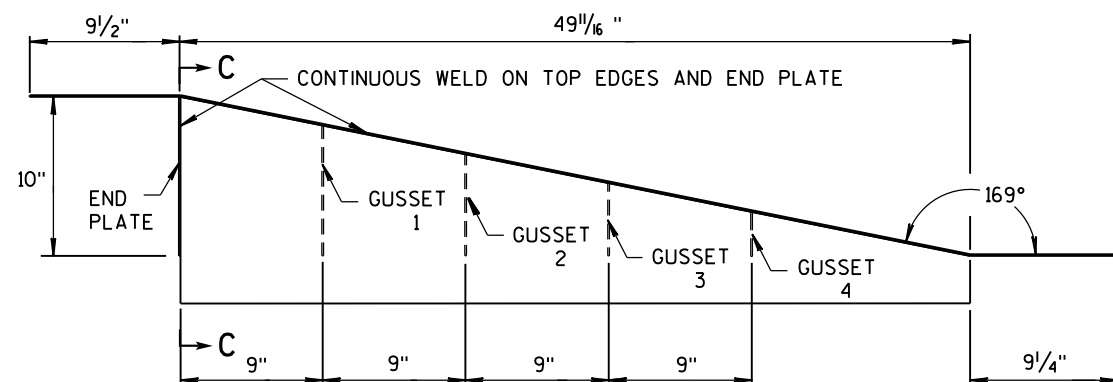
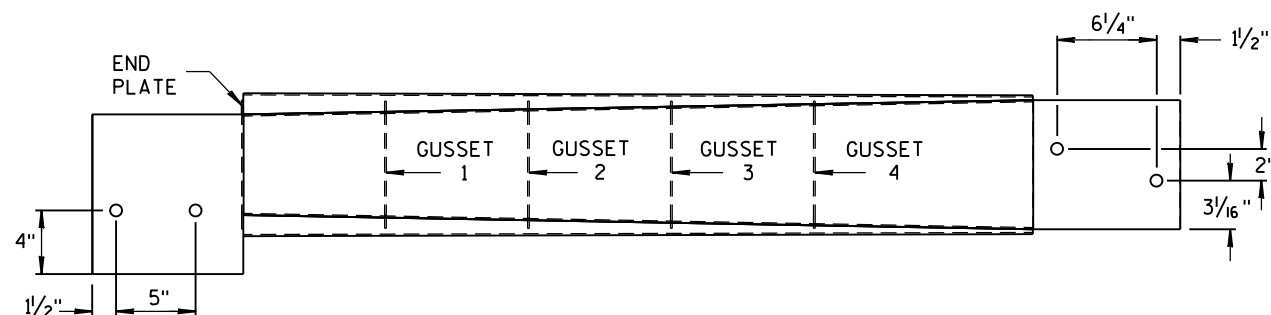


TOP PLATE



SIDE, TOP AND END PLATES FOR CAP FROM TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.



SECTION C-C

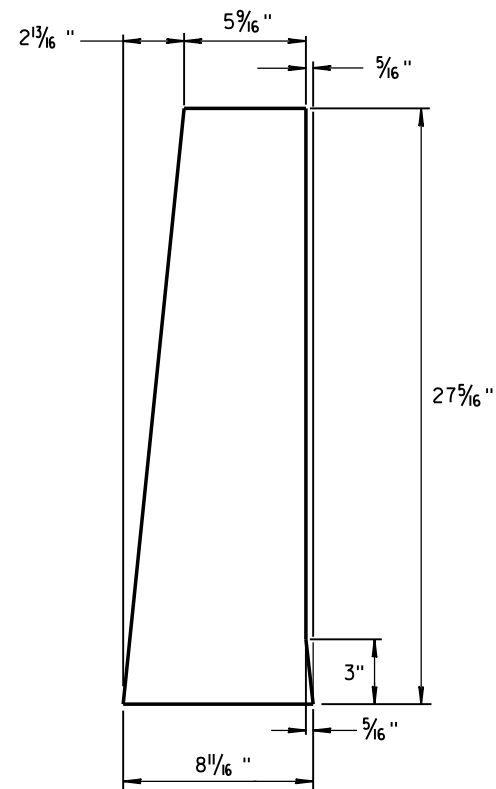
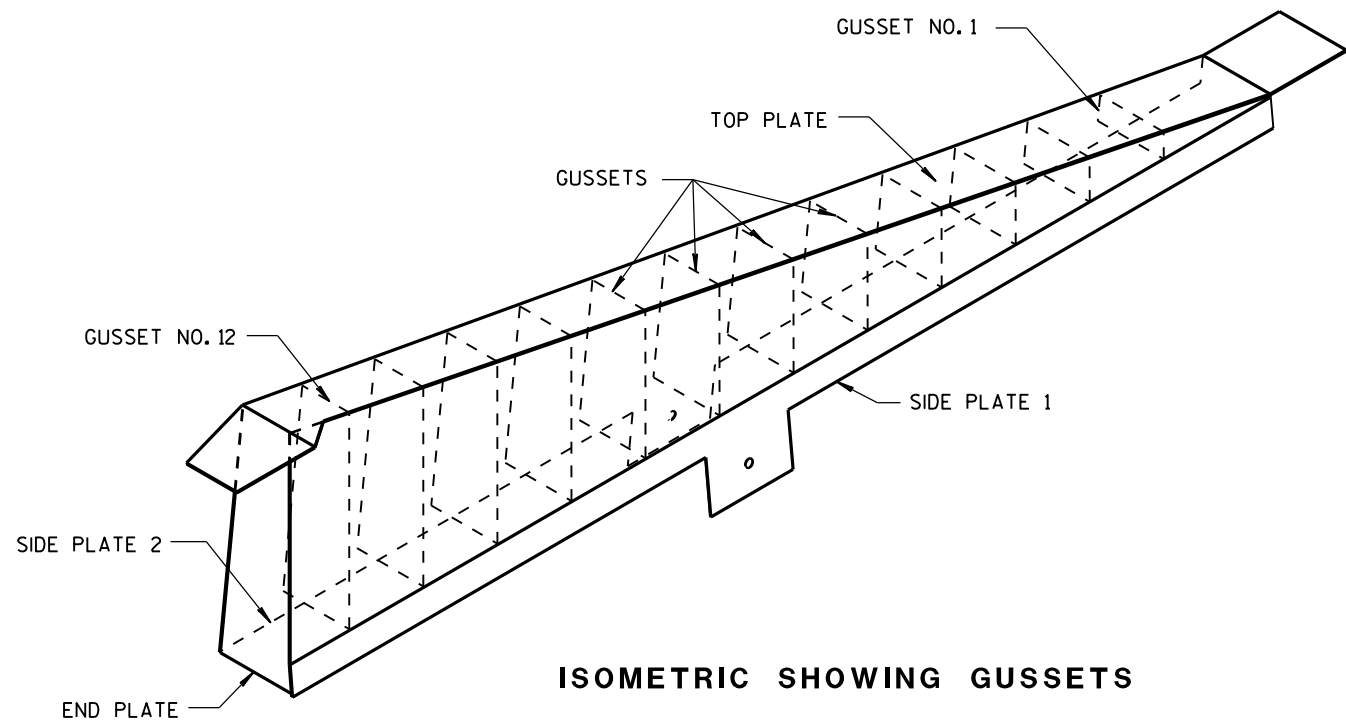
NOTES

1. FOUR GUSSETS AND END PLATE ARE STITCH WELDED ON THREE SIDES.
2. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE, AND GUSSETS.

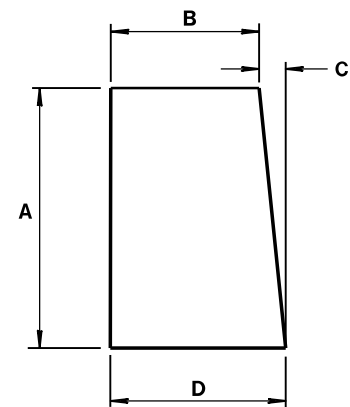
CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



END PLATE
1/8" STEEL PLATE

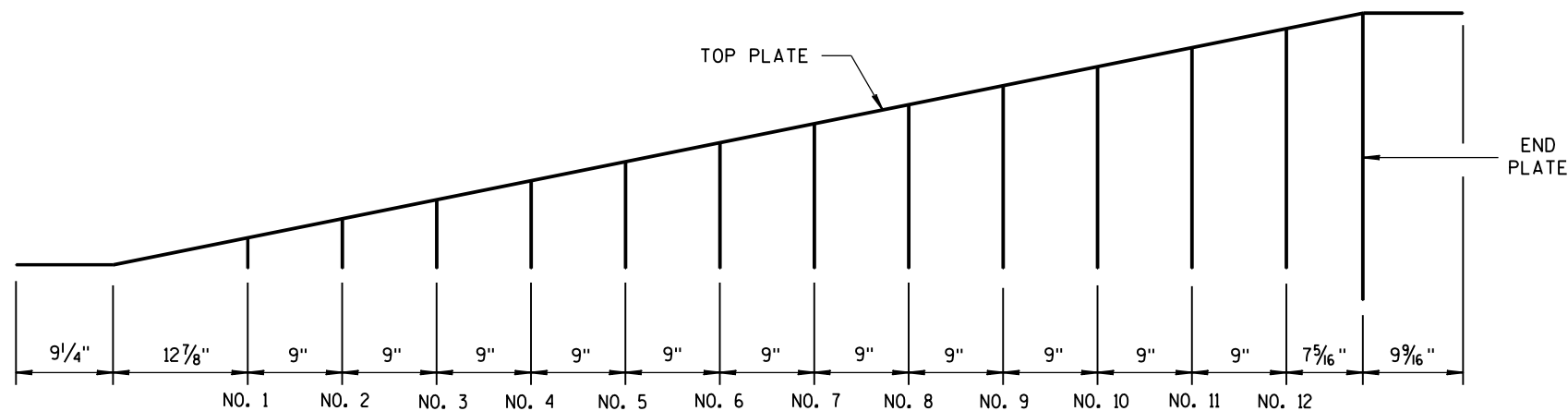


GUSSETS 1 - 12
ALL GUSSETS 1/8" STEEL PLATE

GUSSET DIMENSIONS				
GUSSET NO.	A	B	C	D
1	2 7/8"	7 3/4"	1/4"	8
2	4 1/16 "	7 9/16 "	1/2"	8
3	6 1/2"	7 3/8 "	1 1/16 "	8 1/16 "
4	8 5/16 "	7 3/16 "	7/8"	8 1/16 "
5	10 1/8 "	7"	1 1/16 "	8 1/16 "
6	11 5/16 "	6 13/16 "	1 1/4"	8 1/16 "
7	13 3/4"	6 5/8 "	1 7/16 "	8 1/16 "
8	15 9/16 "	6 7/16 "	1 9/16 "	8 1/16 "
9	17 3/8"	6 1/4"	1 13/16 "	8 1/16 "
10	19 3/16 "	6 1/16 "	1 15/16 "	8 1/16 "
11	21"	5 7/8 "	2 3/16 "	8 1/16 "
12	22 13/16 "	5 11/16 "	2 5/16 "	8 1/16 "

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 STEEL AND GALVANIZED.

GUSSETS AND END PLATE ARE STITCH WELDED ON 3 SIDES. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE AND GUSSETS.

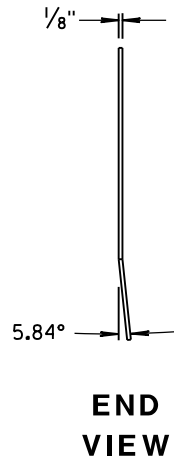
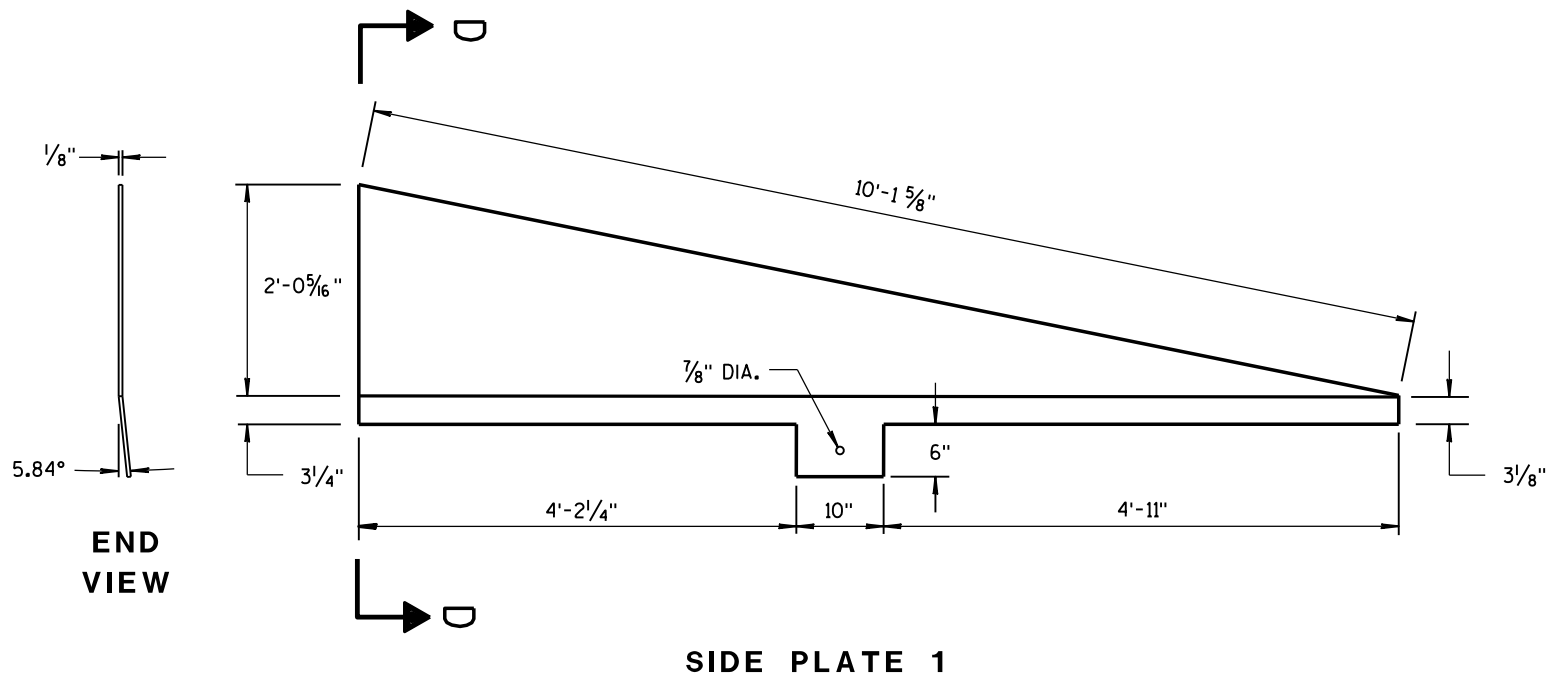
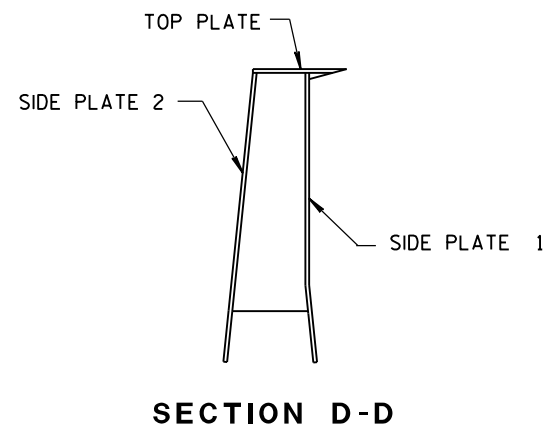
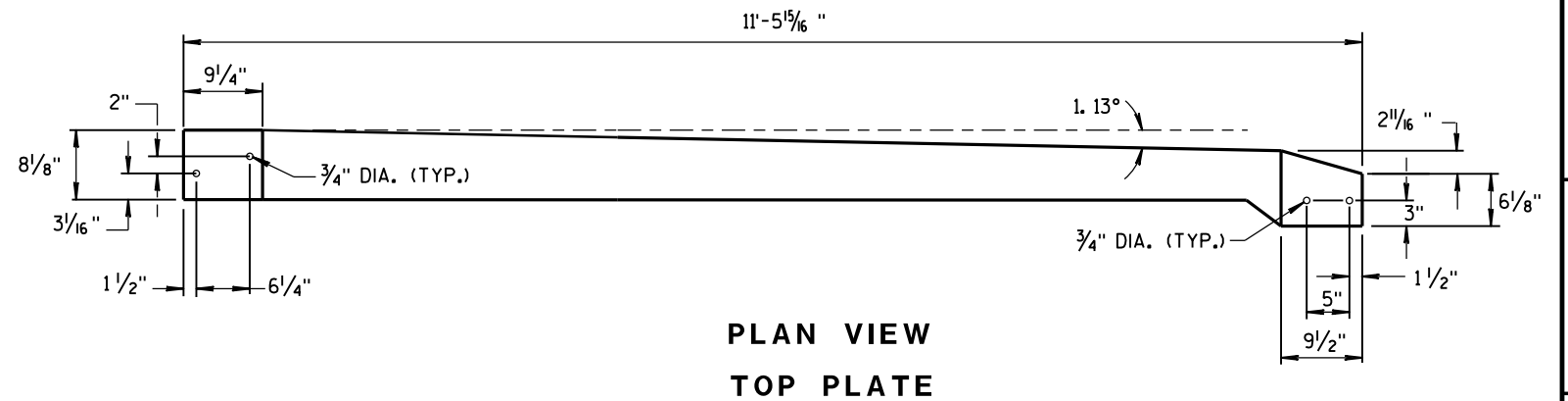
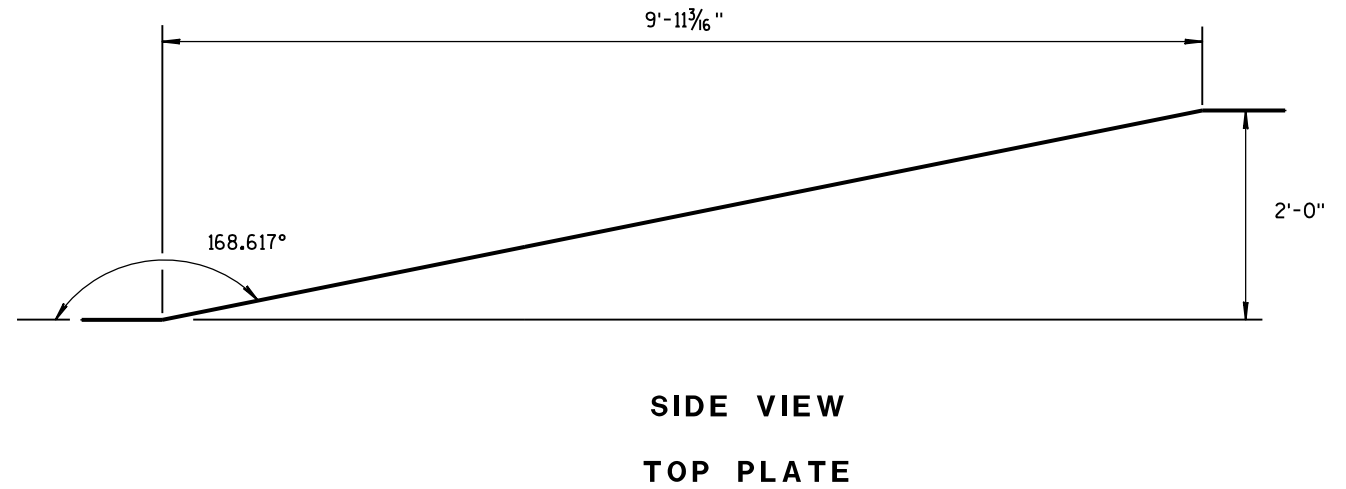
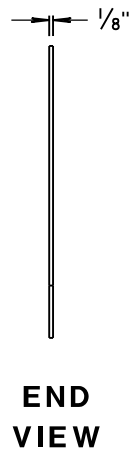
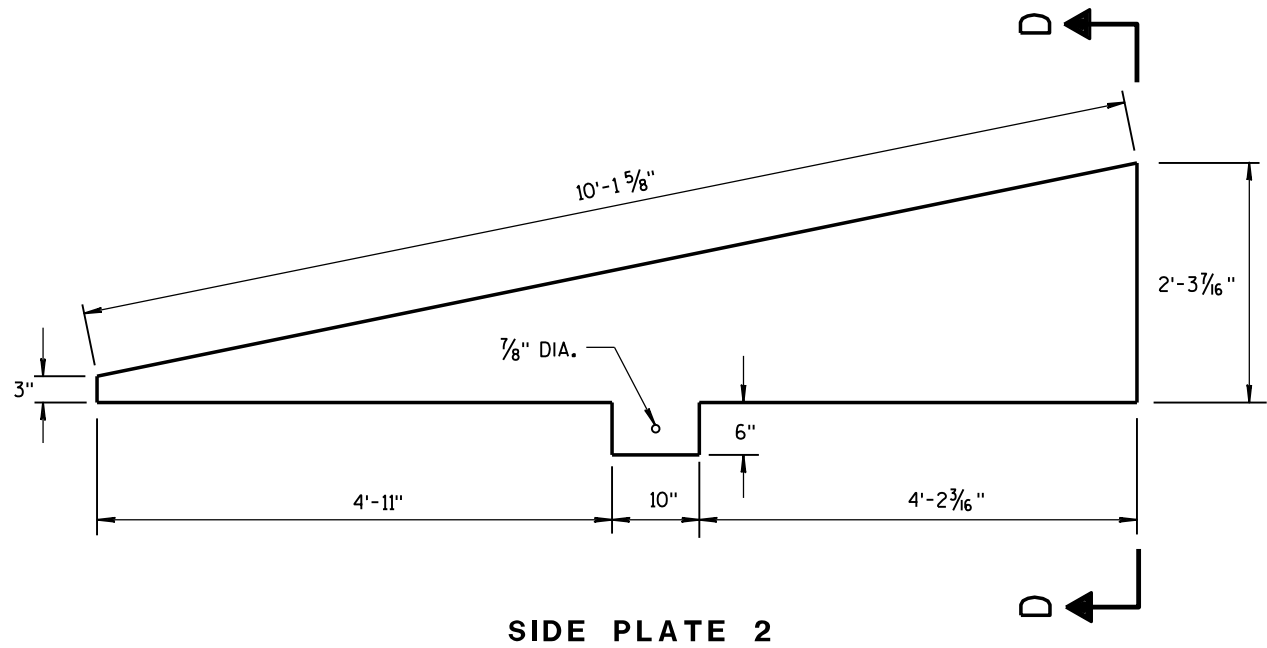


GUSSET LOCATION

CAP DETAILS FOR TEMPORARY CONCRETE
BARRIER TO 56" PERMANENT CONCRETE BARRIER

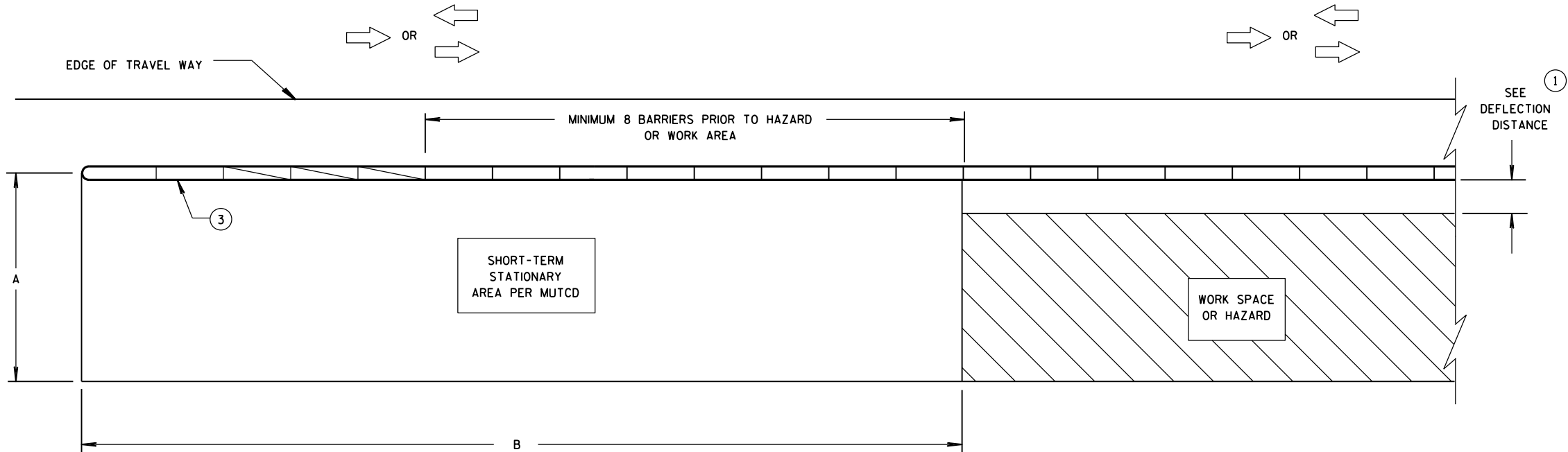
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

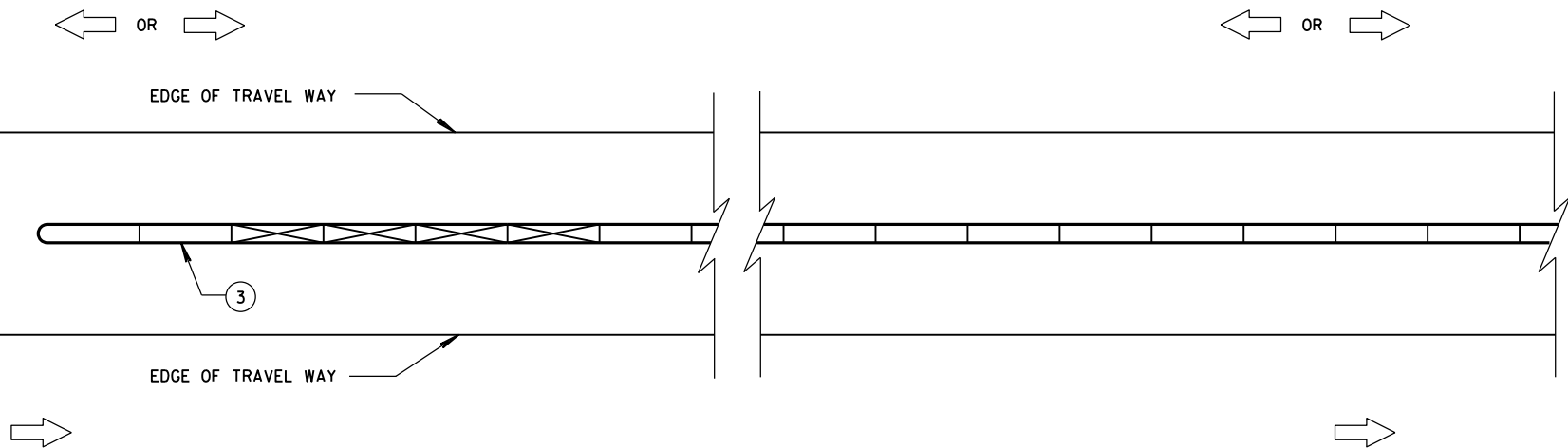


CAP DETAILS FOR TEMPORARY CONCRETE
BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
APPROVED			
June 2014	/S/ Jerry H. Zoog		
DATE	ROADWAY STANDARD	47	INT
FHWA	ENGINEER		



CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER
INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER



CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER
INSTALLATION FOR TRAFFIC ON BOTH SIDES OF BARRIER

GENERAL NOTES

SEE STANDARD DETAIL DRAWING 14B7 FOR MORE INFORMATION.

DETAILS PROVIDE A GENERAL LAYOUT OF TEMPORARY CONCRETE BARRIER, CRASH CUSHIONS, SAND BARREL ARRAYS AND TIE DOWN TRANSITIONS. DETAILS PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

ADDITIONAL TEMPORARY BARRIER MAY BE REQUIRED TO PROTECT TRAVELING PUBLIC FROM HAZARDS, CONTRACTOR'S OPERATIONS OR TO CONTROL TRAFFIC.

TEMPORARY BARRIER MAY BE REQUIRED TO BE ANCHORED TO PAVEMENT OR BRIDGE DECK.

FOR DETAILS ON CRASH CUSHION OR SAND BARREL ARRAYS SEE OTHER SECTIONS OF THE PLAN AND MANUFACTURE'S DETAILS.

SLOPES LEADING TO TEMPORARY BARRIER, CRASH CUSHION OR SAND BARREL ARRAY ARE 10:1 OR LESS.

- ① FOR DEFLECTION INFORMATION SEE STANDARD DETAIL DRAWING 14B7.
- ② VALUES PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.
- ③ ANCHOR TEMPORARY BARRIER ACCORDING TO CRASH CUSHION OR SAND BARREL MANUFACTURER'S RECOMMENDATIONS. IF MANUFACTURER'S RECOMMENDATIONS ARE NOT PROVIDED, ANCHOR 3 PINS ON TRAFFIC SIDE.

DIMENSION A TABLE ②

FACILITY	POSTED SPEED MPH	DIMENSION A	
		MIN. FT	MAX. FT
FREEWAY/EXPRESSWAY	ALL	15	20
NON-FREEWAY/EXPRESSWAY	GREATER THAN OR EQUAL TO 45	10	15
NON-FREEWAY/EXPRESSWAY	LESS THAN 45	8	10
AADT LESS THAN 1,500	ALL	8	10

DIMENSION B TABLE ②

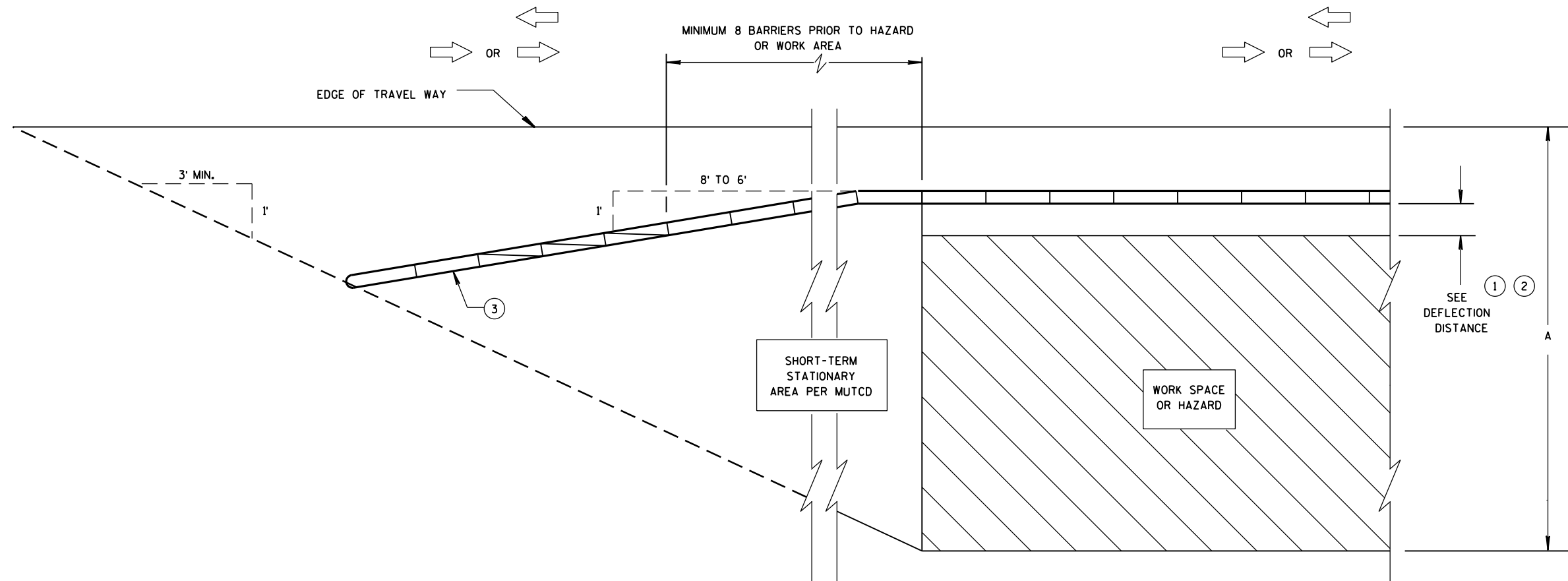
POSTED SPEEDS MPH	DIMENSION B FT
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645

LEGEND

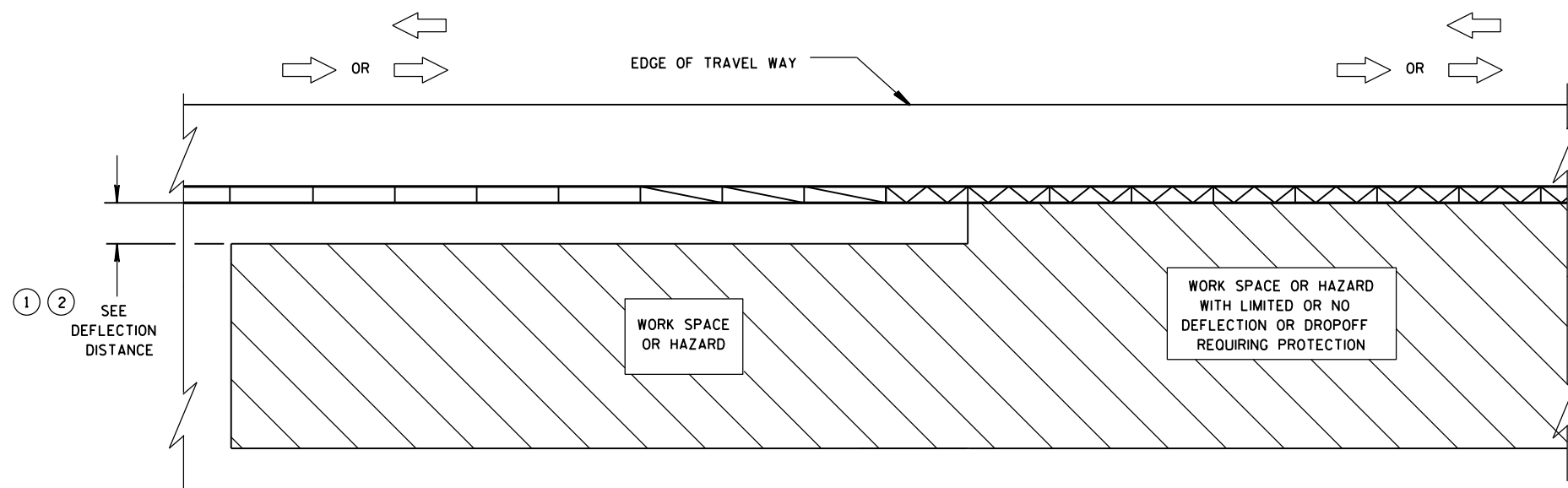
- DIRECTION OF TRAVEL →
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

CRASH CUSHION/SAND BARREL
ARRAY AND OTHER TEMPORARY
BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



**CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER
INSTALLATION FOR TRAFFIC ON ONE SIDE - FLARED INSTALLATION**



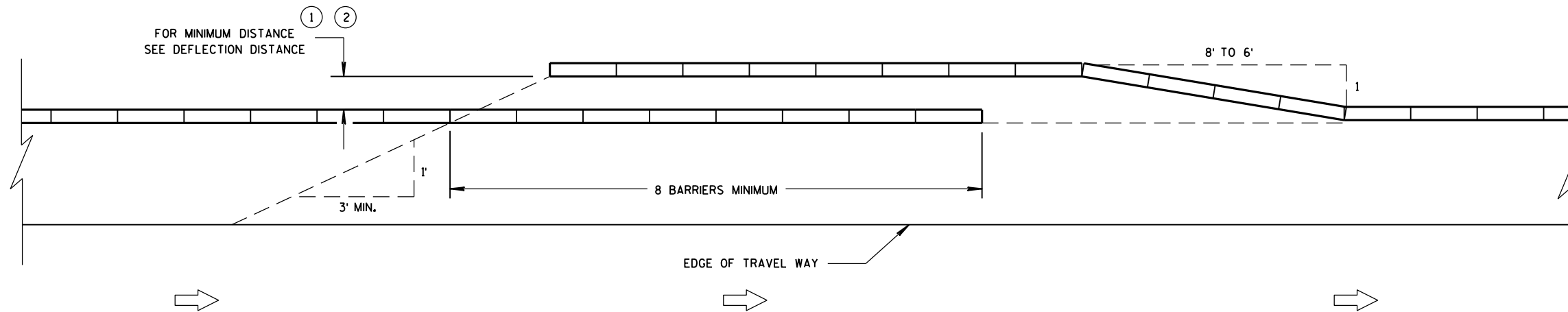
**TRANSITION FROM FREE STANDING TEMPORARY BARRIER
TO ANCHORED BARRIER**

LEGEND

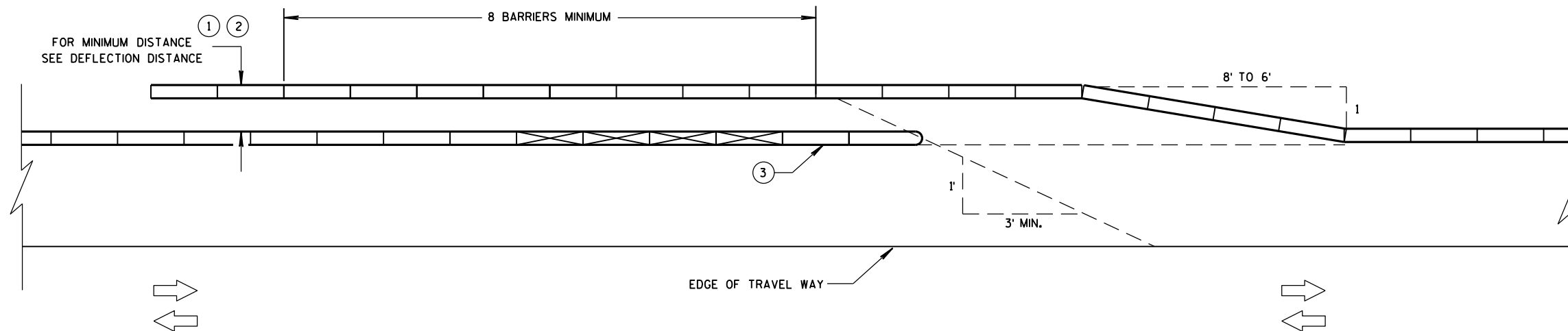
DIRECTION OF TRAVEL	
CRASH CUSHION OR SAND BARREL ARRAY	
SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS	
SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS	
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER	
PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET	
FREE STANDING TEMPORARY BARRIER	

**CRASH CUSHION/SAND BARREL
ARRAY AND OTHER TEMPORARY
BARRIER LAYOUT DETAILS**

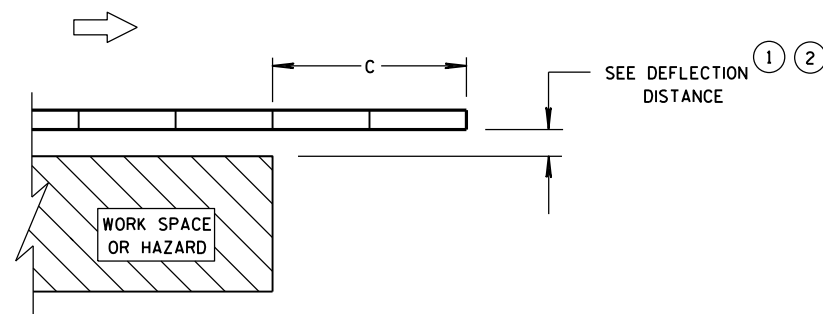
STATE OF WISCONSIN
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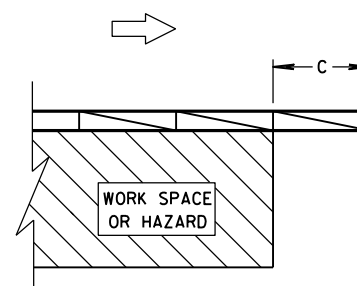
TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC



TEMPORARY BARRIER OVERLAP - TWO-WAY TRAFFIC



**ENDING TEMPORARY BARRIER
DOWNSTREAM - UNANCHORED**



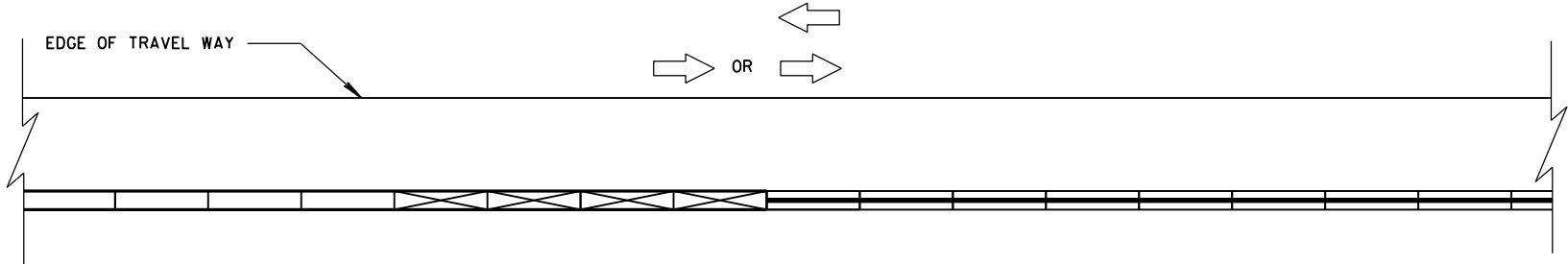
**ENDING TEMPORARY BARRIER
DOWNSTREAM - ANCHORED**

LEGEND

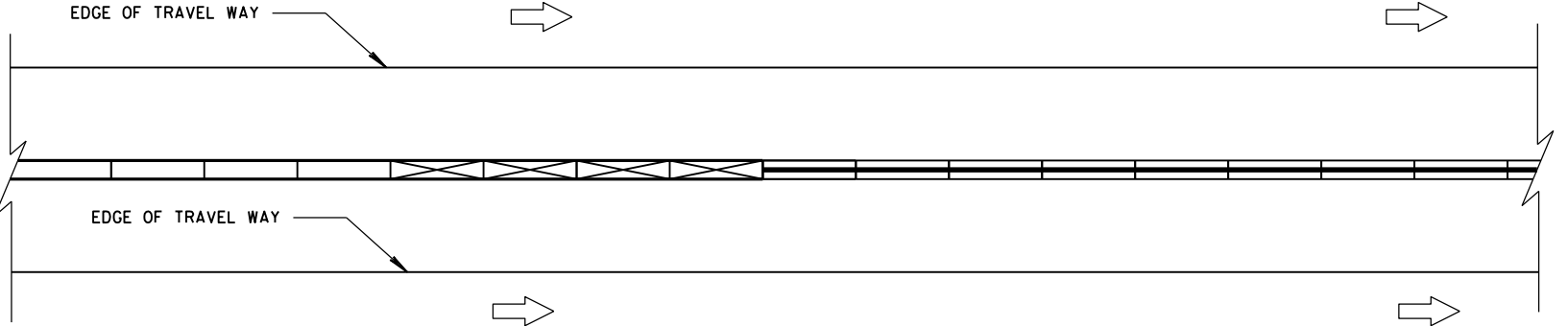
DIRECTION OF TRAVEL	
CRASH CUSHION OR SAND BARREL ARRAY	
SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS	
SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS	
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER	
PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET	
FREE STANDING TEMPORARY BARRIER	

**CRASH CUSHION/SAND BARREL
ARRAY AND OTHER TEMPORARY
BARRIER LAYOUT DETAILS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



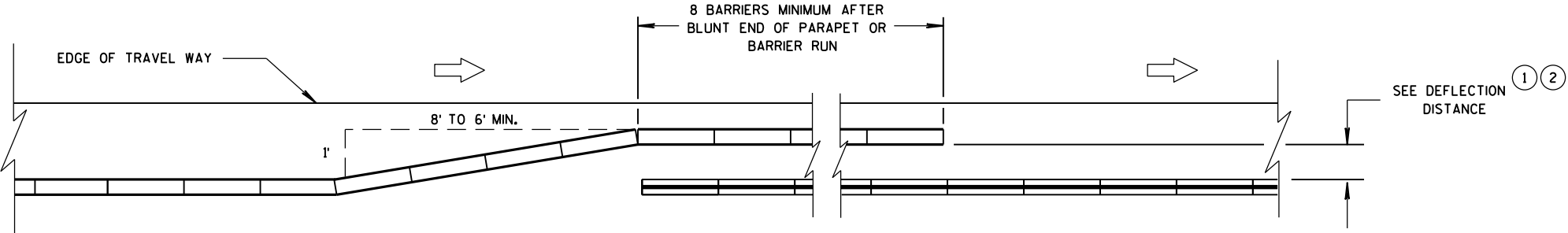
CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON ONE SIDE



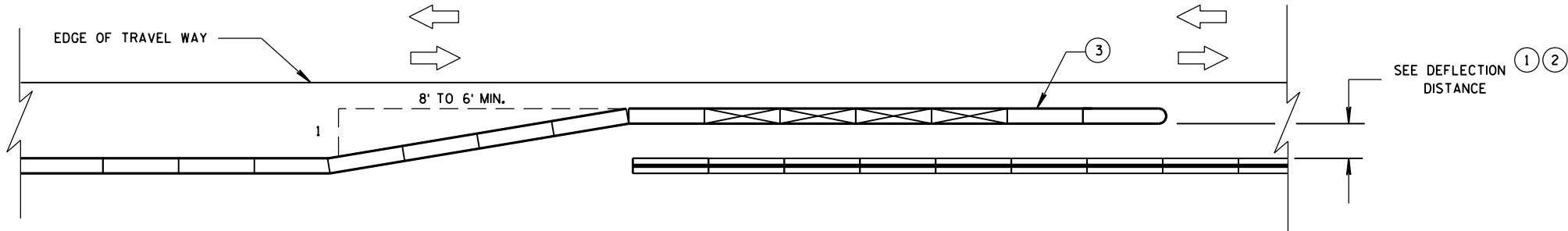
CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON BOTH SIDES

LEGEND

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
ONE WAY TRAFFIC



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
TWO WAY TRAFFIC

CRASH CUSHION/SAND BARREL
ARRAY AND OTHER TEMPORARY
BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

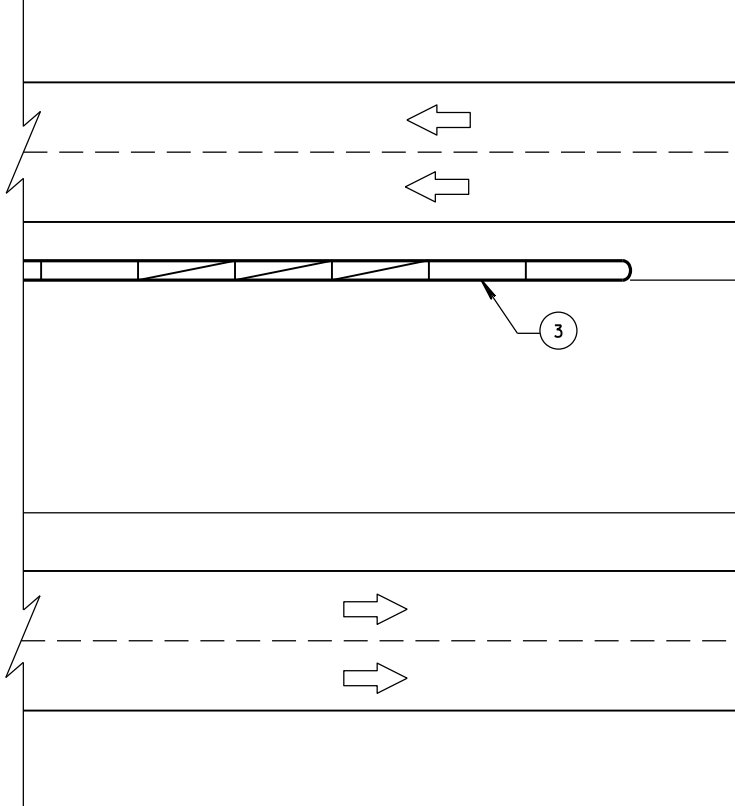
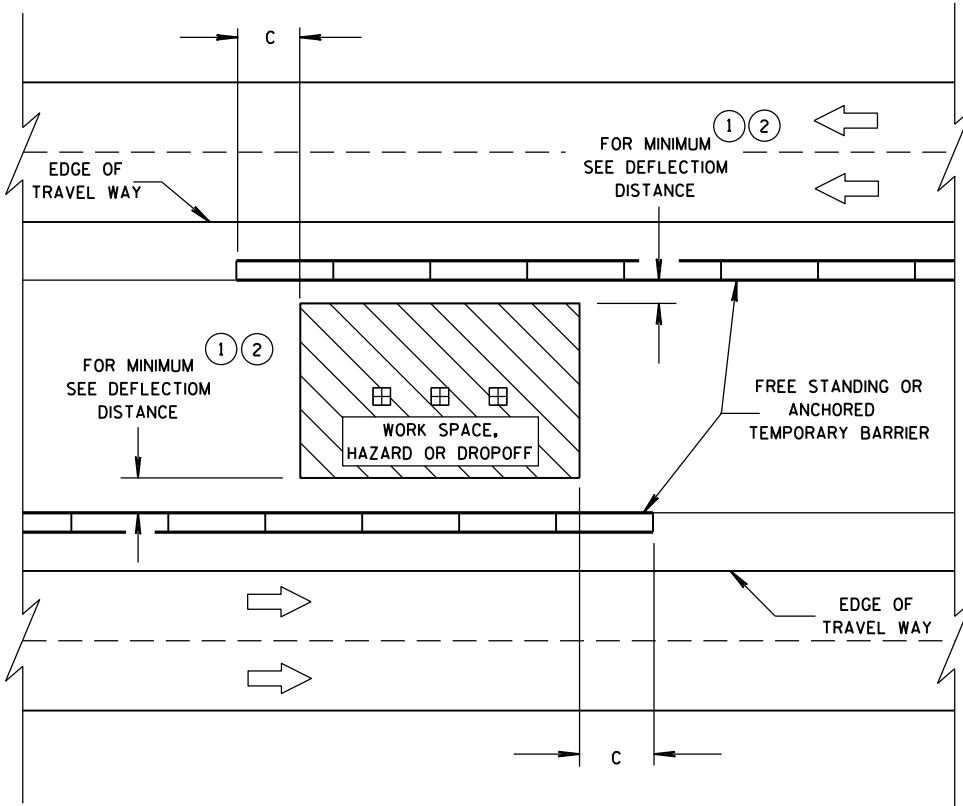
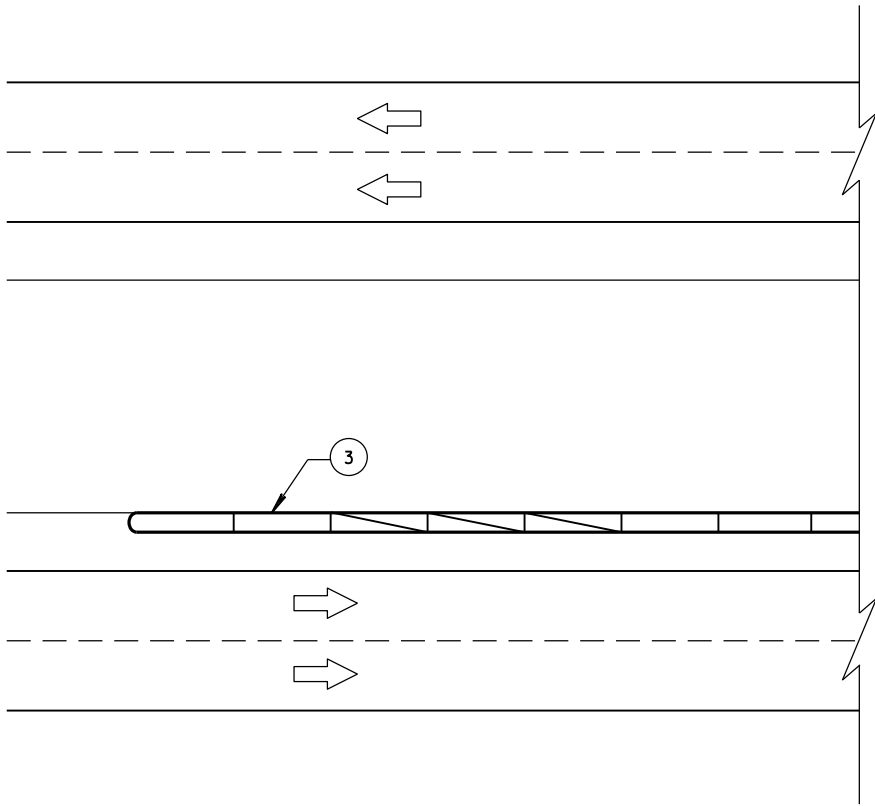
LEGEND

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

DIMENSION C TABLE

AVAILABLE DEFLECTION DISTANCE	MINIMUM LENGTH OF BARRIER BEYOND HAZARD FT
GREATER THAN 8'	12.5
LESS THAN OR EQUAL TO 8' BUT GREATER THAN 4'	50
LESS THAN OR EQUAL TO 4'	100

6



6

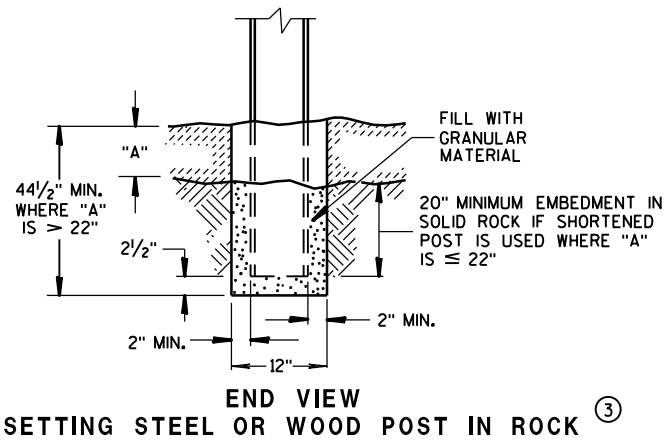
CRASH CUSHION/SAND BARREL
ARRAY AND OTHER TEMPORARY
BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

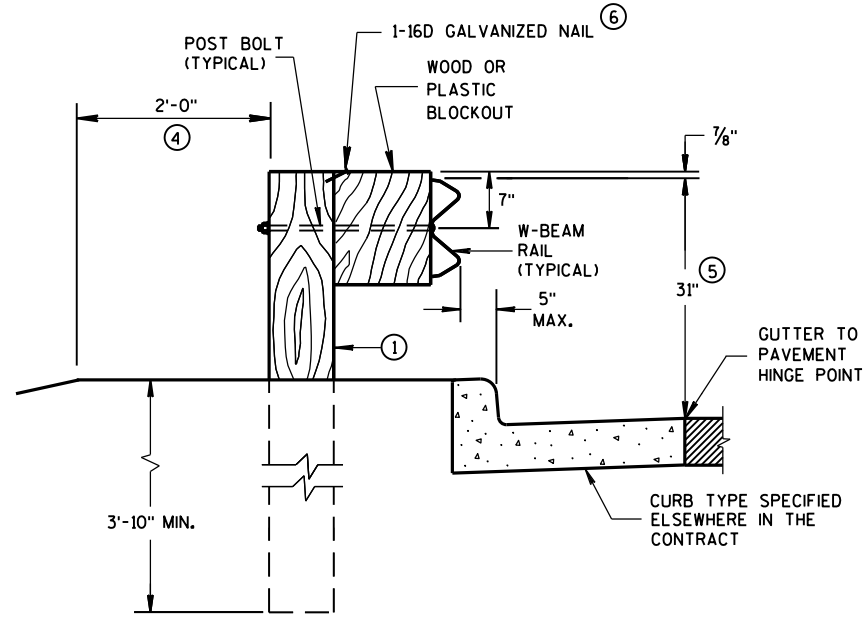
APPROVED
June, 2015 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS ENGINEER 52 ENT
FHWA

GENERAL NOTES

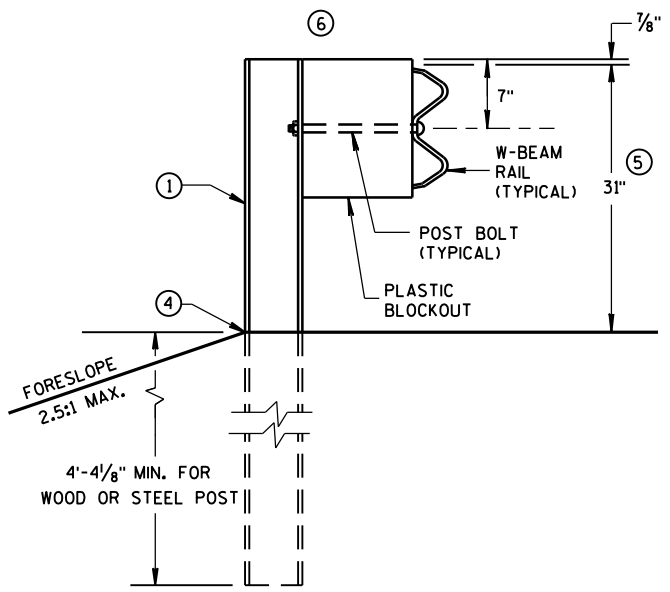
- ① WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
- ② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.
- ③ IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2 INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AND INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.
- ④ WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).
- ⑤ FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 3/4" TO 32".
- ⑥ WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.



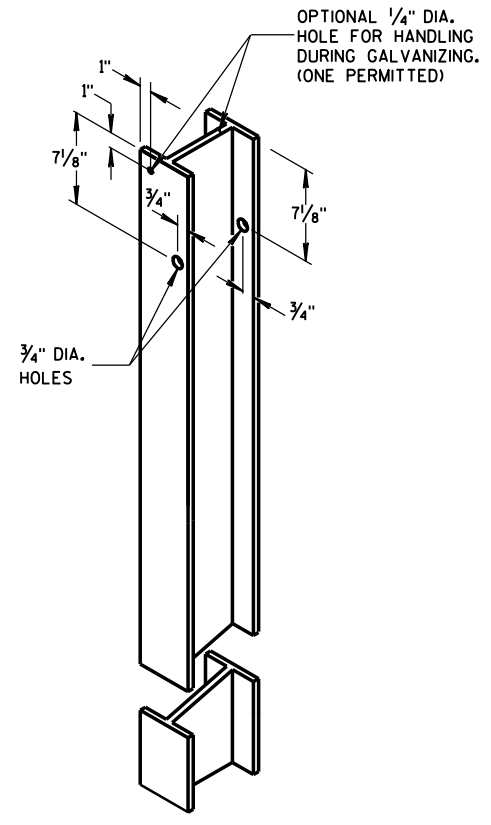
END VIEW
SETTING STEEL OR WOOD POST IN ROCK ③



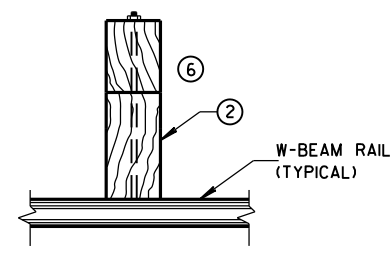
END VIEW
LOCATED ALONG A CURBED ROADWAY



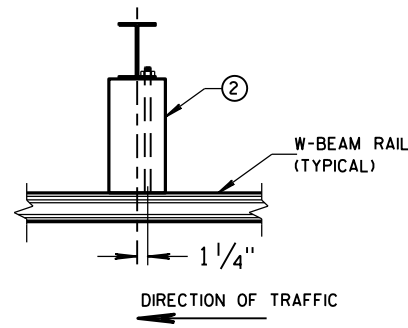
END VIEW
MGS LONGER POST AT HALFPST SPACING W BEAM (K)



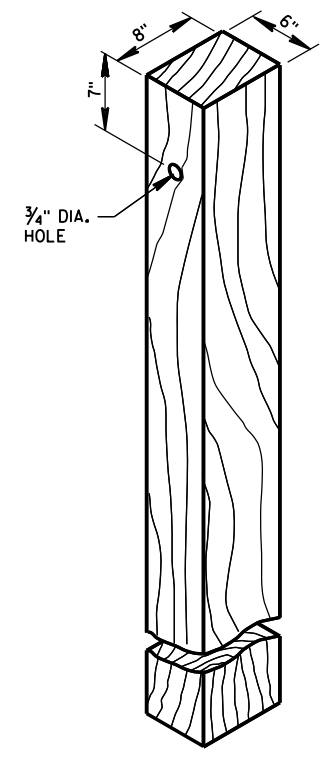
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) ①



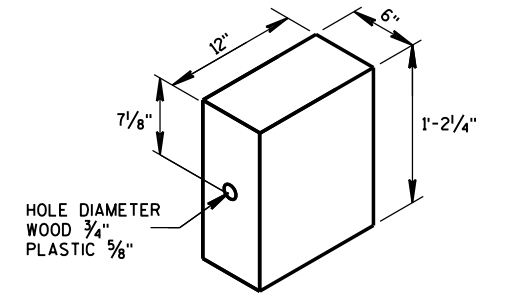
PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM



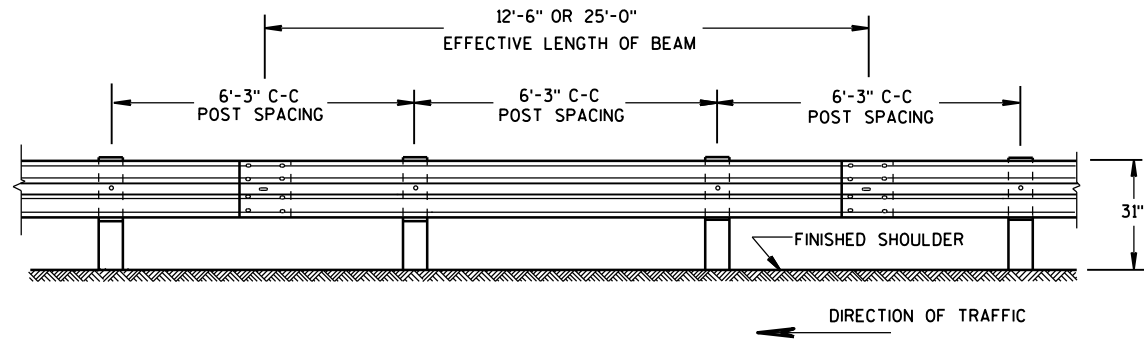
WOOD POST
(6" X 8") NOMINAL ①



WOOD OR
PLASTIC BLOCKOUT ②

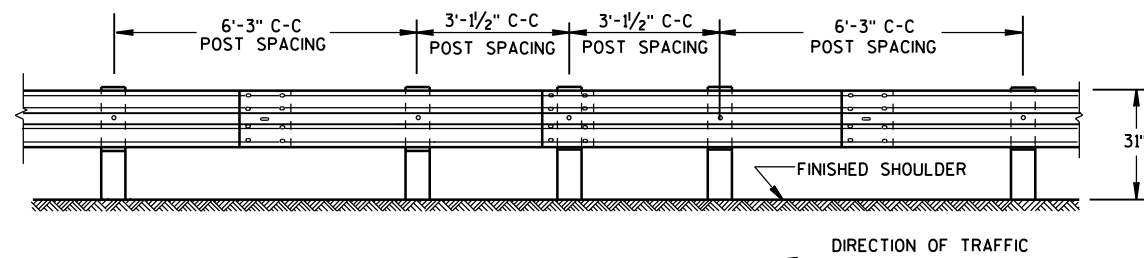
MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



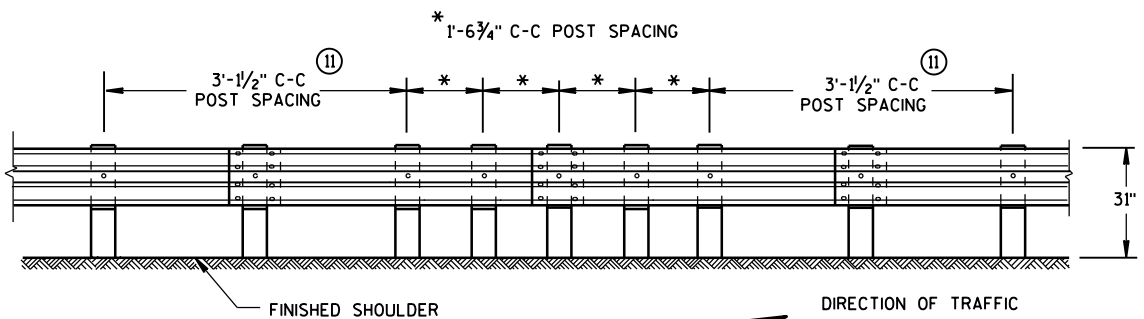
FRONT VIEW

POST SPACING STANDARD INSTALLATION



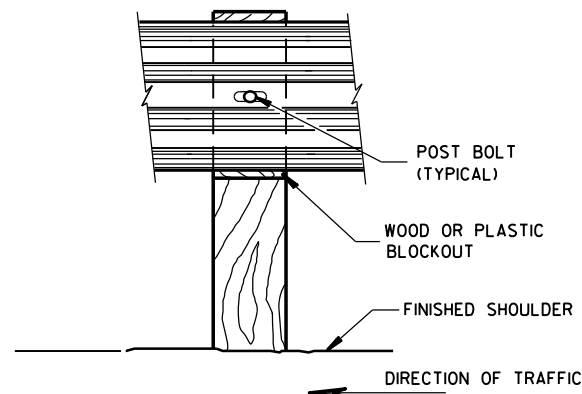
FRONT VIEW

HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)

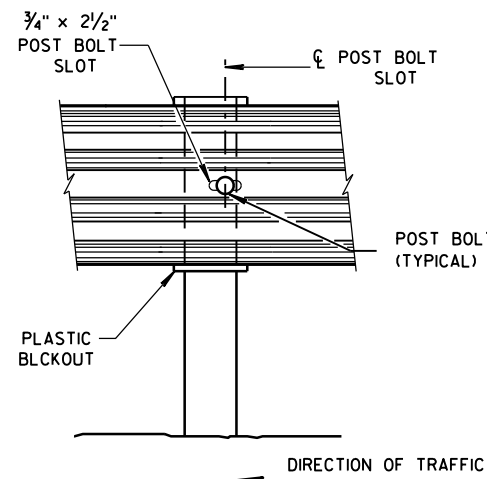


FRONT VIEW

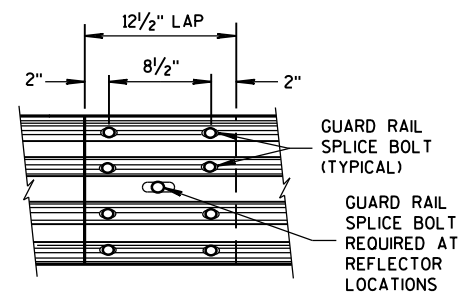
QUARTER POST SPACING (QS)



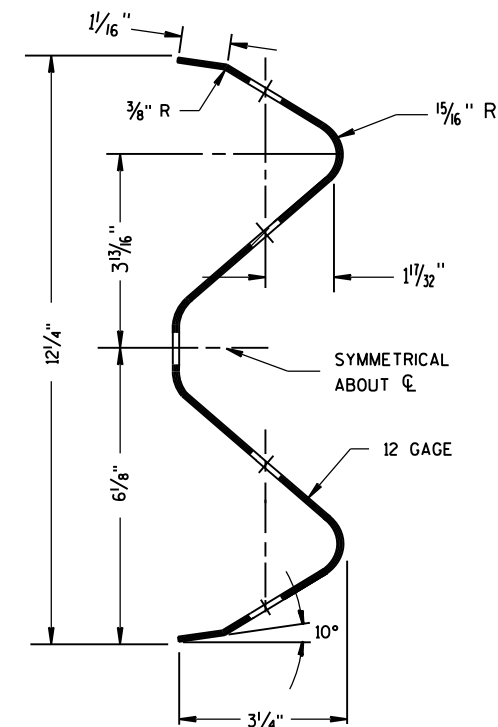
FRONT VIEW AT WOOD POST



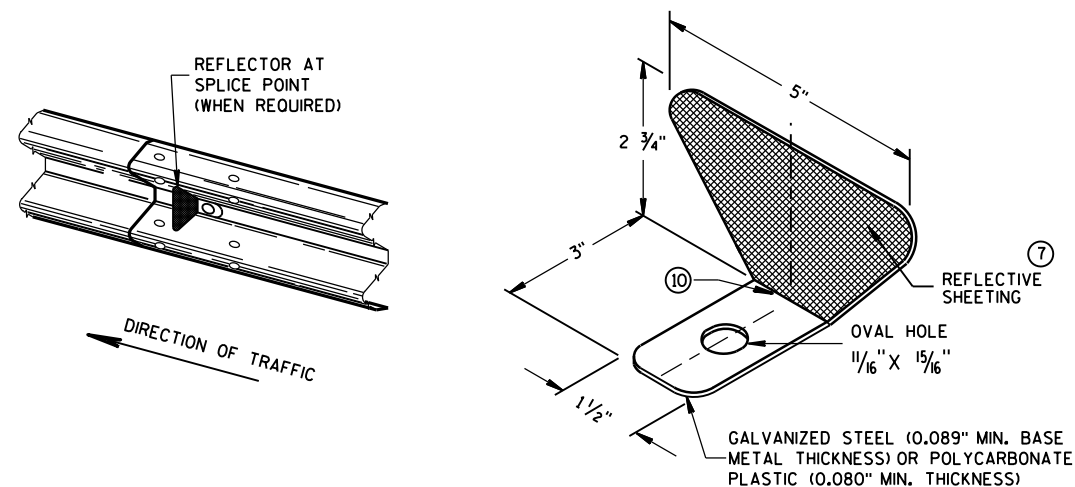
FRONT VIEW AT STEEL POST



FRONT VIEW
MID-SPAN BEAM SPLICE



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

GENERAL NOTES

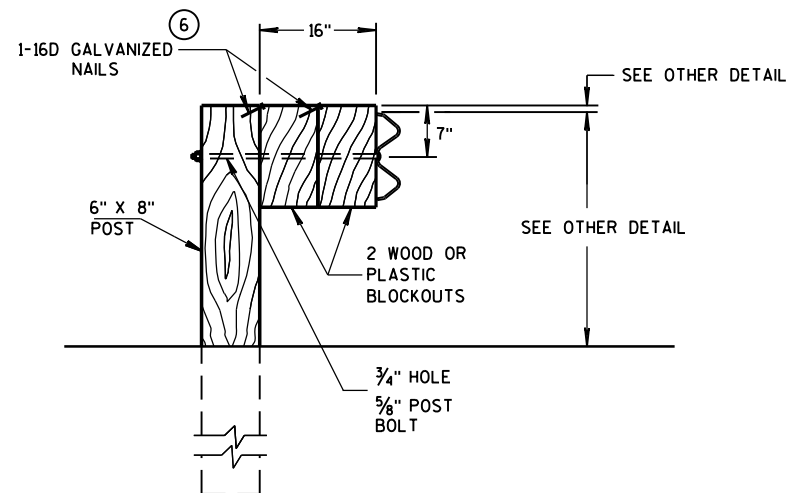
- ⑦ PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.
 - ⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.
 - ⑨ REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.
 - ⑩ PROVIDE AN ANGLE OF BEND OF $90^\circ \pm 1^\circ$ FOR TWO-SIDED REFLECTORS.
 - ⑪ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.
- POST BOLTS ARE A $\frac{5}{8}$ " DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES $\frac{5}{8}$ " DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND $\frac{5}{8}$ " DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.
- GUARD RAIL SPLICE BOLTS ARE A $\frac{5}{8}$ " DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES $\frac{5}{8}$ " DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

REFLECTOR SPACING

	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1 ⑨	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2 ⑩	3
	> 200'	100' C-C	2	

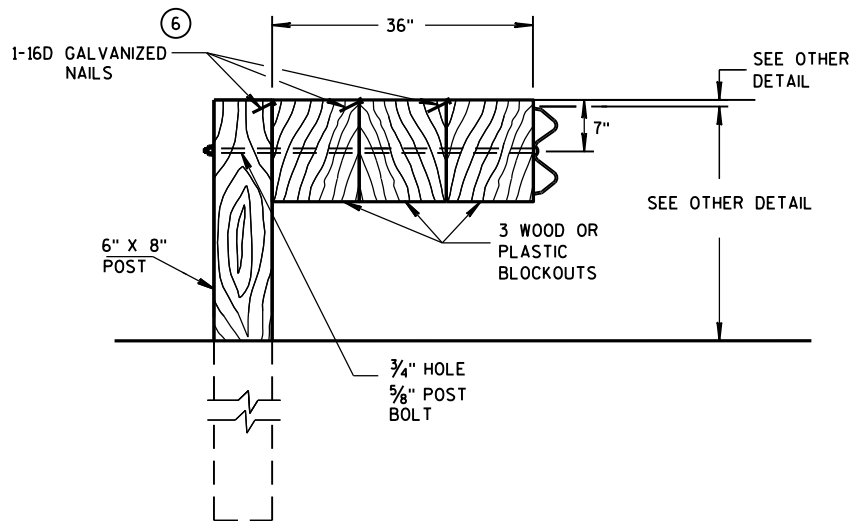
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DETAIL FOR 16" BLOCKOUT DEPTH

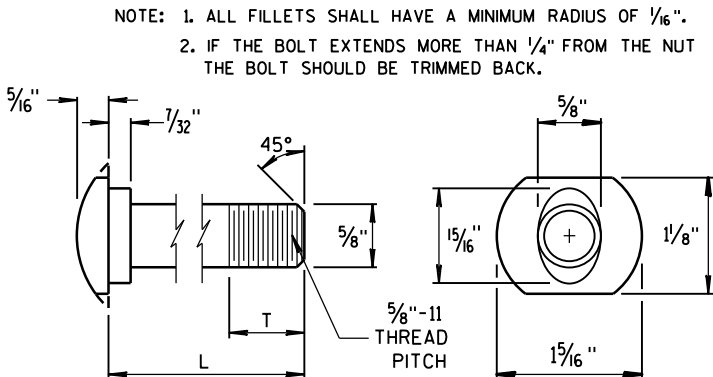
IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.



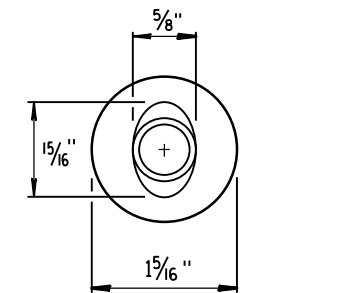
DETAIL FOR 36" BLOCKOUT DEPTH

NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

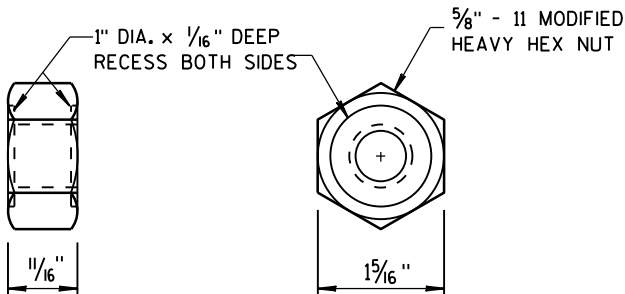
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.



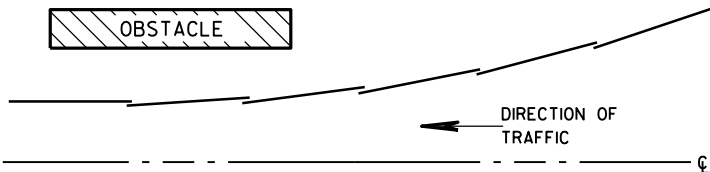
POST BOLT TABLE



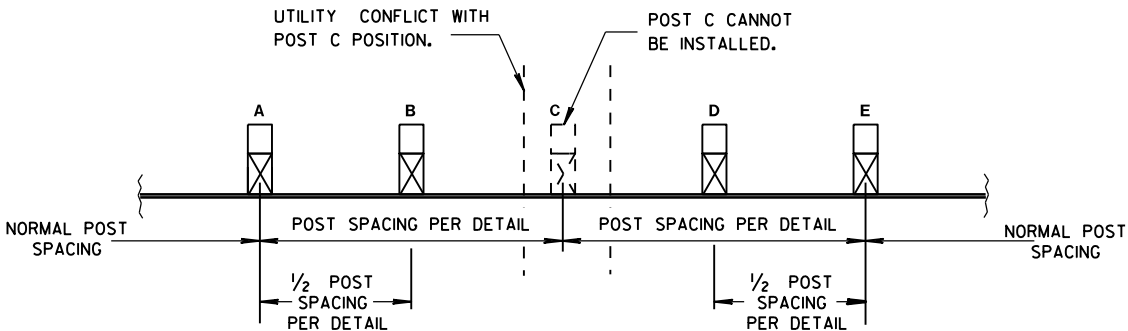
ALTERNATE BOLT HEAD



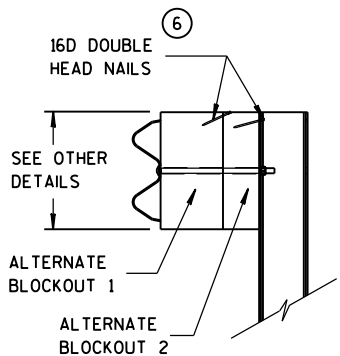
POST BOLT AND RECESS NUT



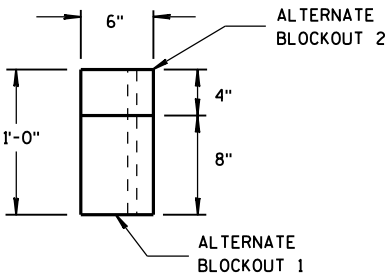
PLAN VIEW
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS
UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS (55) INT
FHWA ENGINEER

6

- S.D.D. 14 B 44-23**

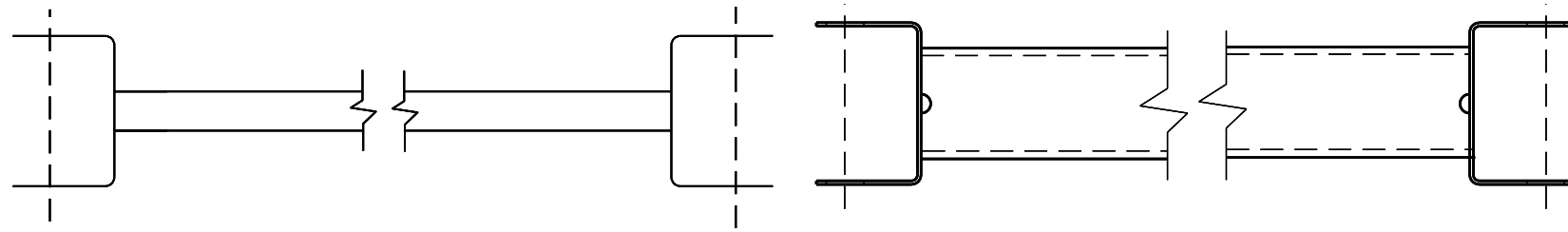
THE CENTER OF THE UPPER 3 1/2" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE.



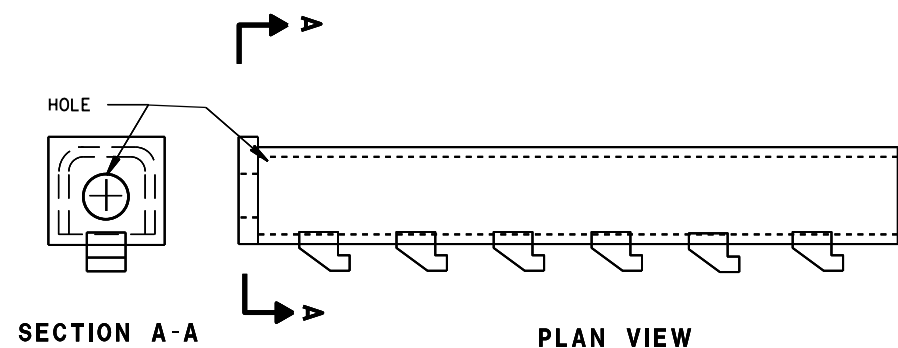
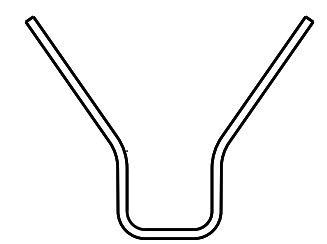
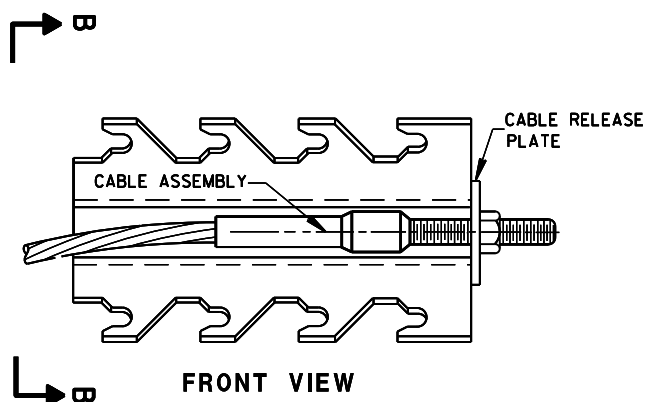
SECTION A-A
TYPICAL AT POST NO. 1*



STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 56



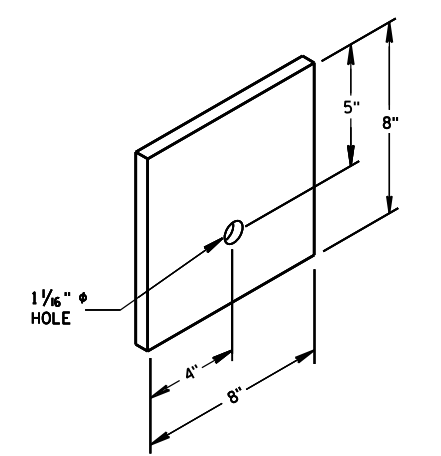
9 H
GENERIC GROUND STRUT



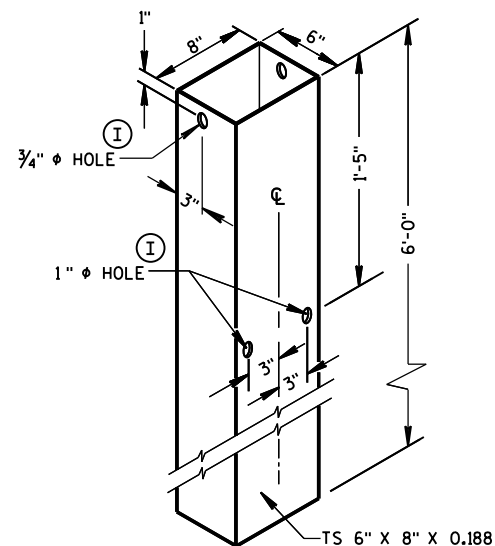
8 H
GENERIC ANCHOR CABLE BOX

BILL OF MATERIALS

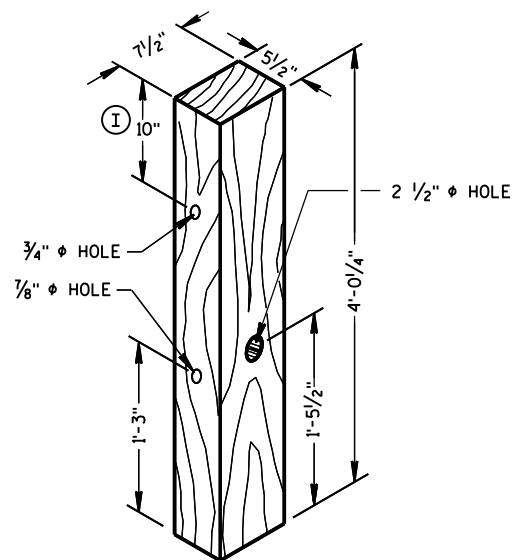
PART NO.	DESCRIPTION
MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.	
①	WOOD BREAKAWAY POST
②	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
⑪	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
⑫	END SECTION EAT
⑬	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS
⑭	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



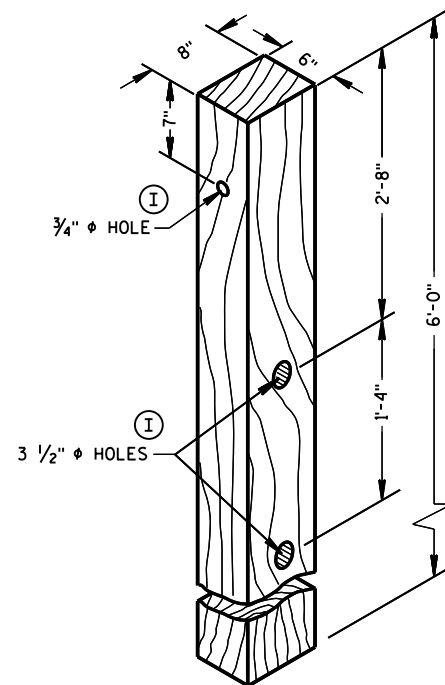
⑥
BEARING PLATE



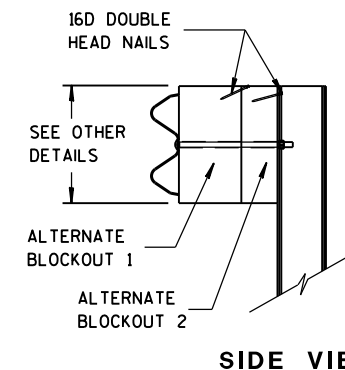
FOUNDATION TUBE ②



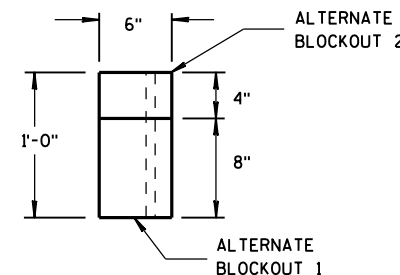
WOOD BREAKAWAY POST ①



WOOD CRT POST ③

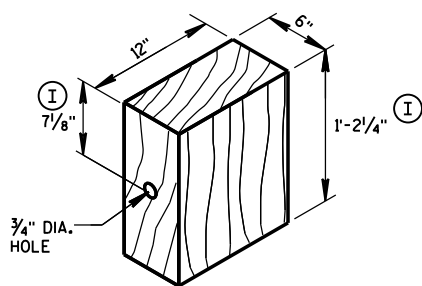


SIDE VIEW



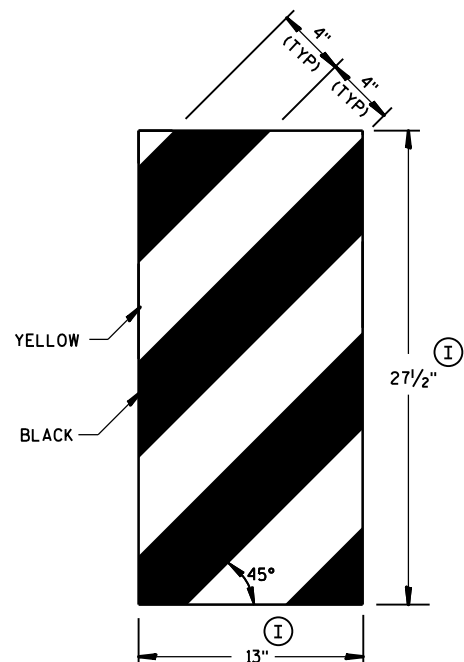
TOP VIEW

**ALTERNATE WOOD
BLOCKOUT DETAIL**

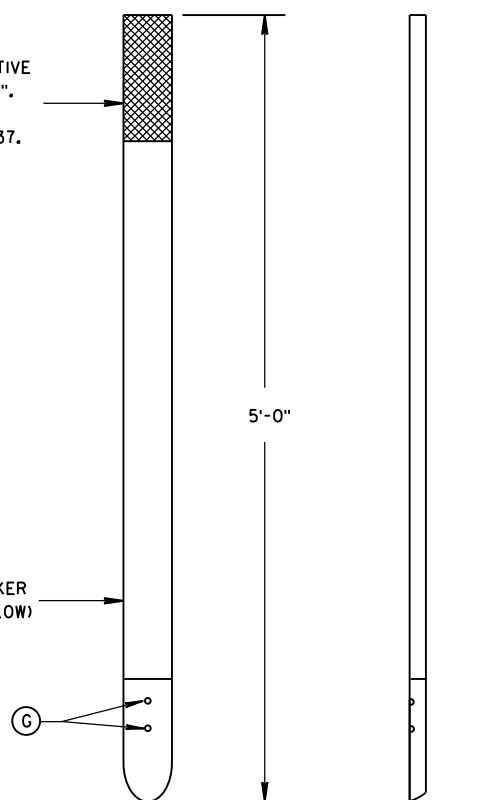
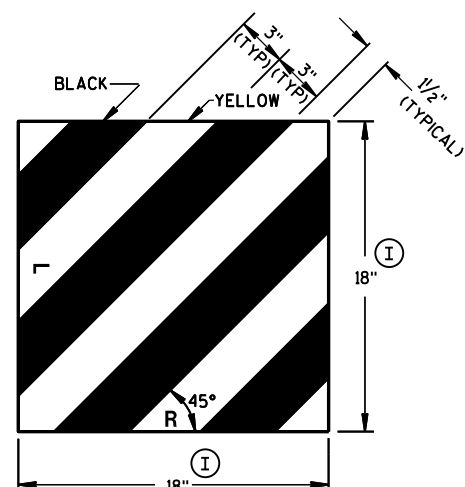


WOOD BLOCKOUT ④
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2

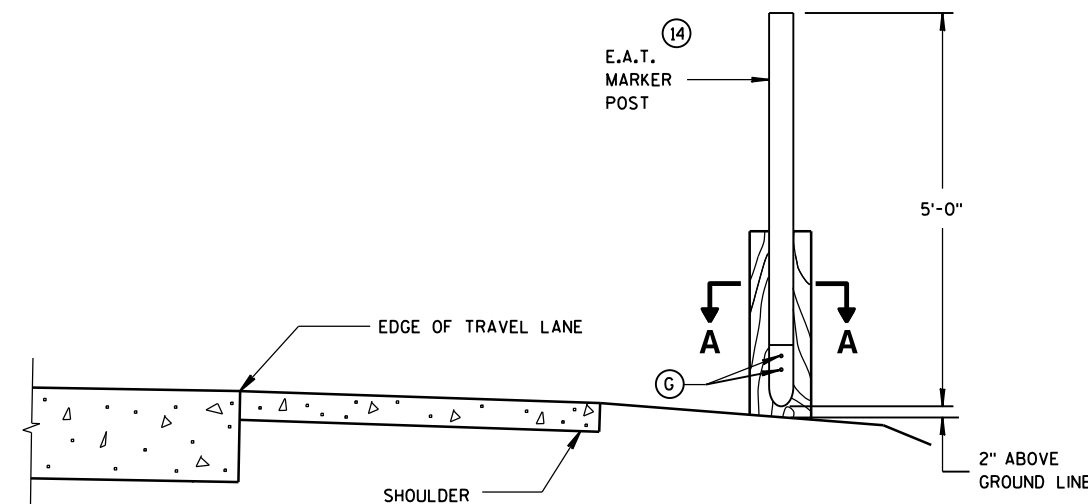
TYPE H
YELLOW REFLECTIVE
SHEETING 3" X 9".
SEE STANDARD
SPECIFICATION 637.



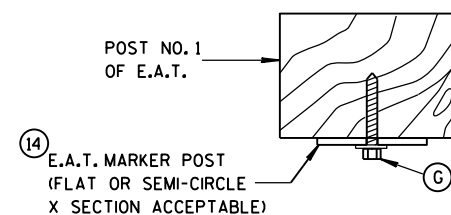
GENERIC REFLECTIVE SHEETING ⑬ ①



E.A.T. MARKER POST ⑭



**TYPICAL INSTALLATION OF E.A.T.
MARKER POST BACKSIDE OF POST NO. 1**
(E.A.T. AND RAIL REMOVED FOR CLARITY)

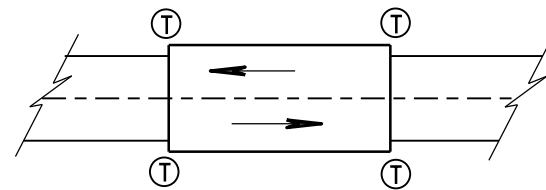


SECTION A-A

**MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)**

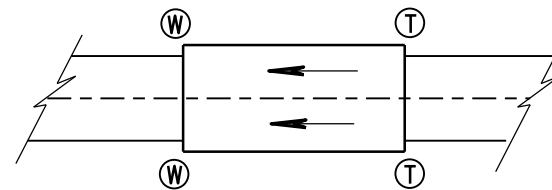
**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION**

APPROVED
June 2014 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS 58 ENT
FHWA ENGINEER



TWO WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION



ONE WAY TRAFFIC

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

GENERAL NOTES

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

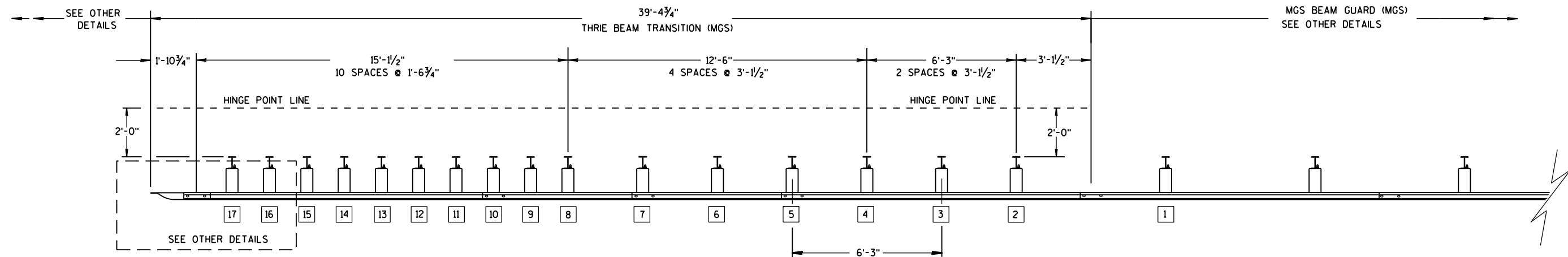
TRANSITION USES STEEL POSTS ONLY.

SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

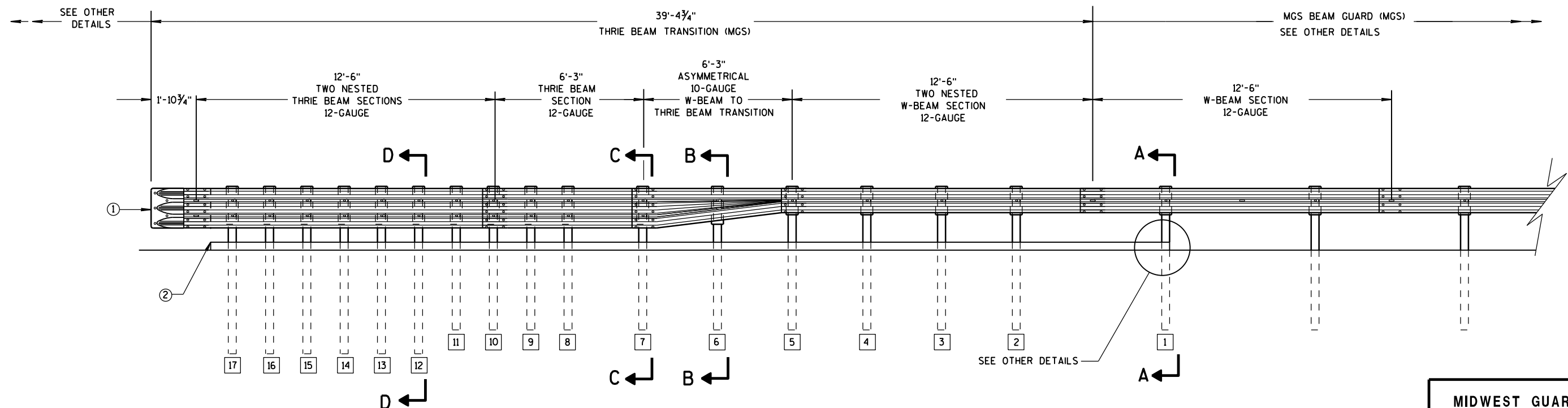
① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE



PLAN VIEW



ELEVATION VIEW

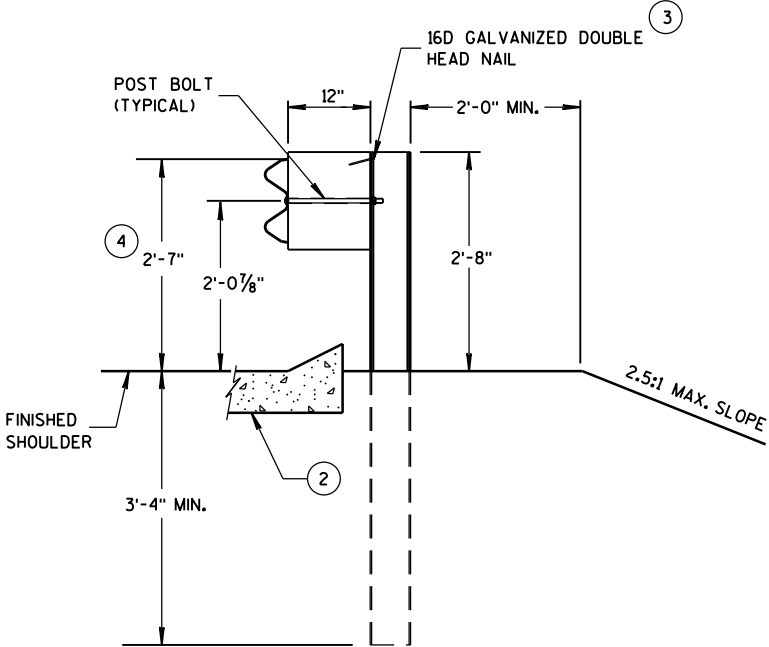
MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

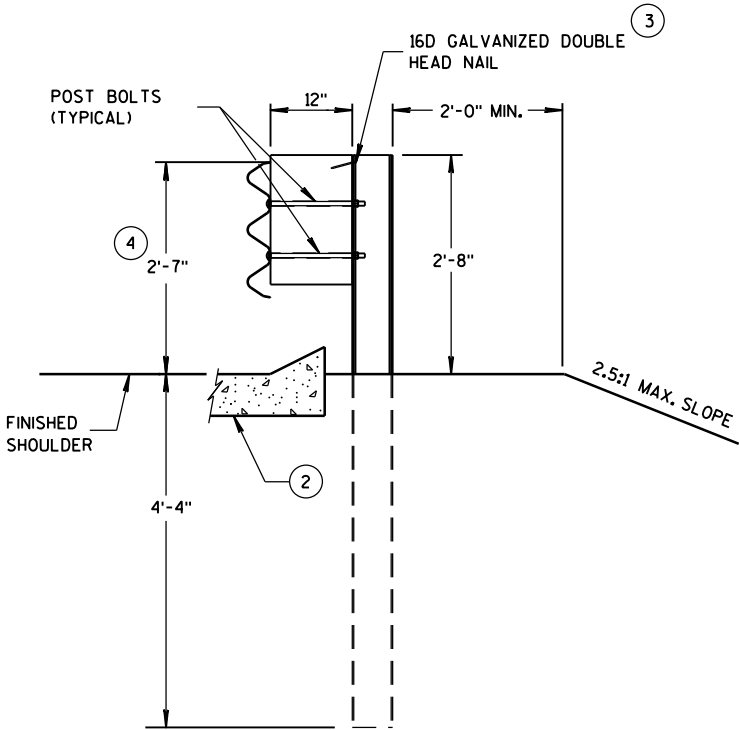
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 59

GENERAL NOTES

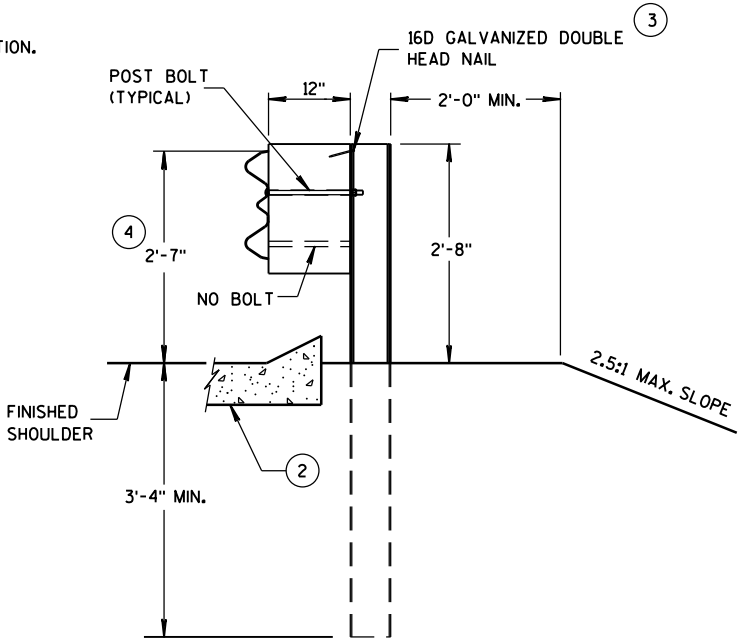
- 2 OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- 3 WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- 4 TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".



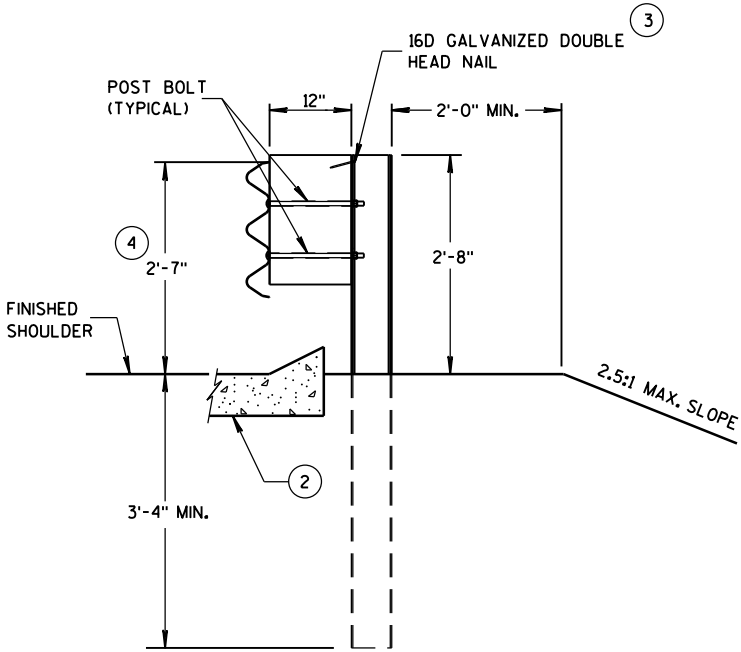
SECTION A-A
POSTS 1-5



SECTION D-D
POSTS 12-17



SECTION B-B
POST 6



SECTION C-C
POSTS 7-11

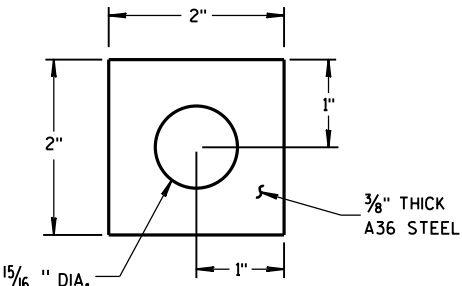
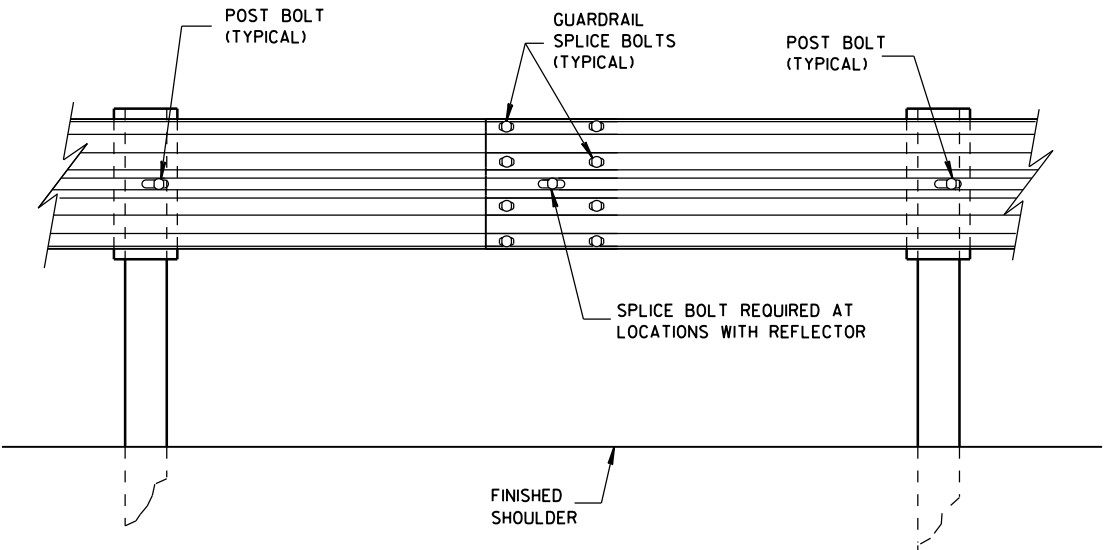
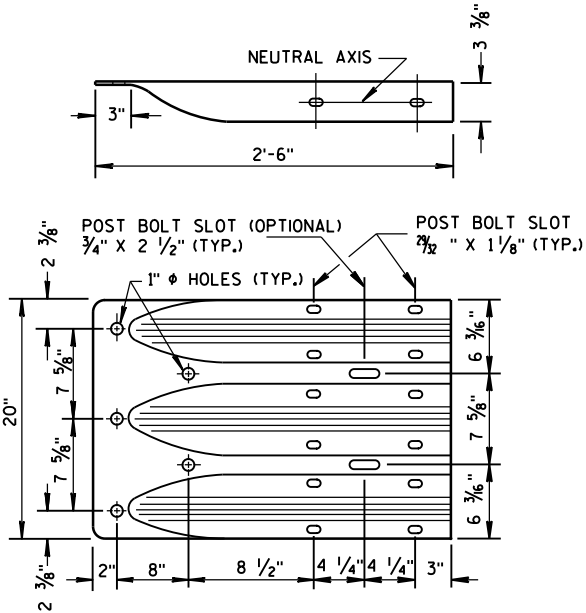


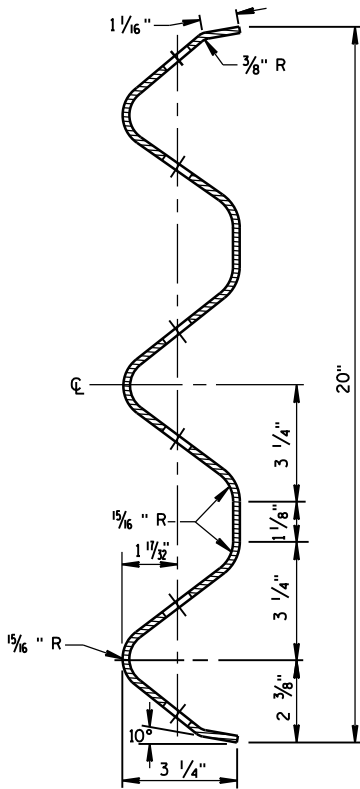
PLATE WASHER DETAIL



SPlice DETAIL



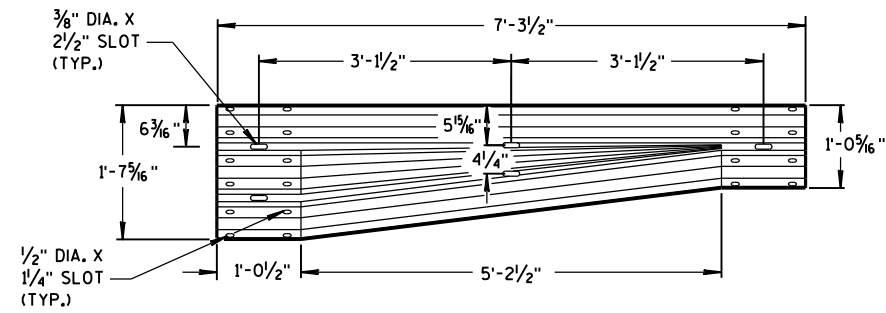
THRIE BEAM
TERMINAL CONNECTOR



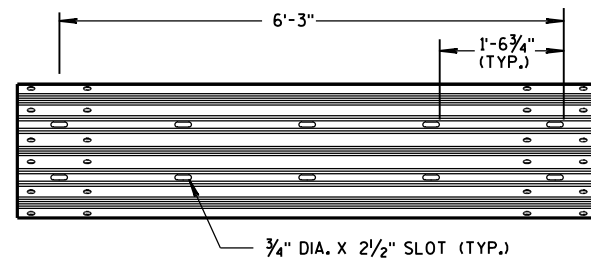
SECTION THRU THRIE
BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

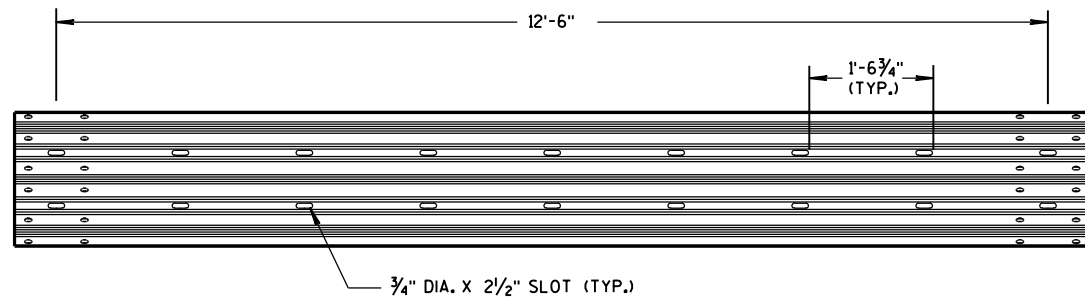
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



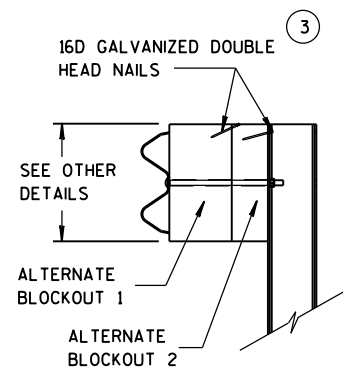
W-BEAM TO THRIE BEAM TRANSITION SECTION



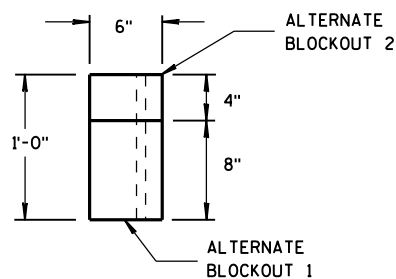
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

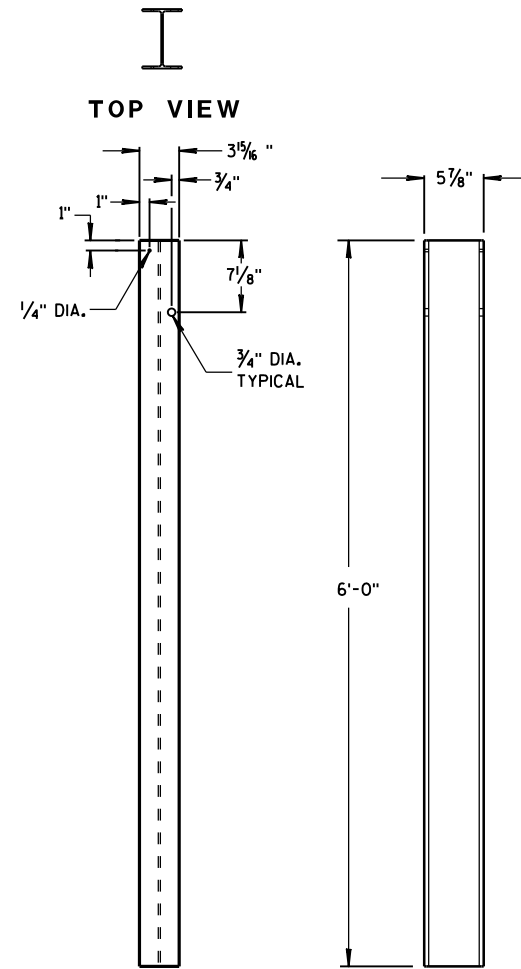


SIDE VIEW



TOP VIEW

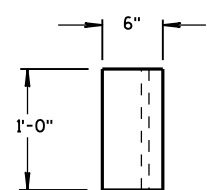
ALTERNATE WOOD BLOCKOUT DETAIL



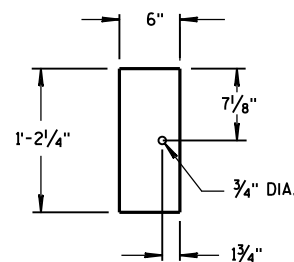
FRONT VIEW

SIDE VIEW

STEEL POSTS 1-5

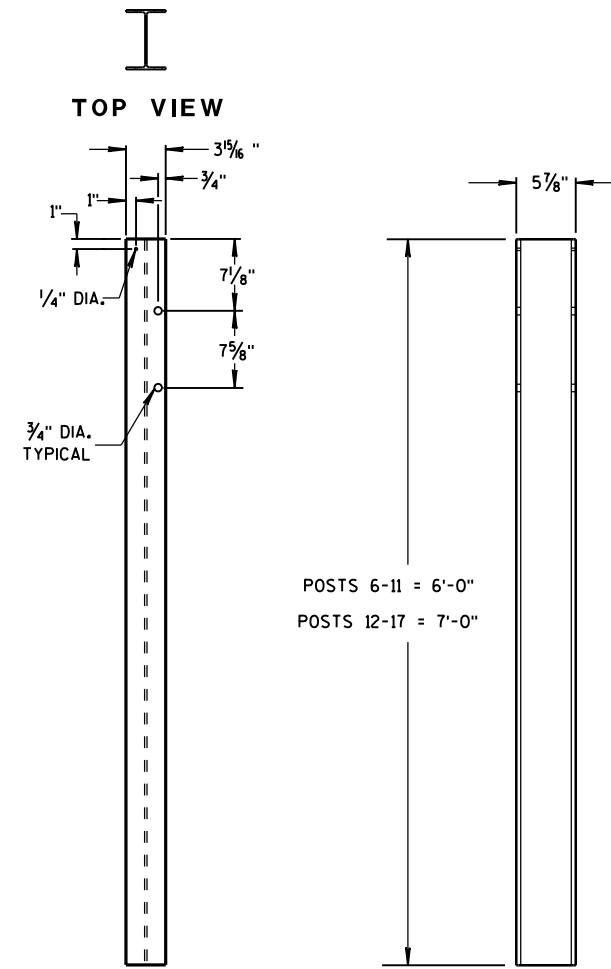


TOP VIEW



FRONT VIEW

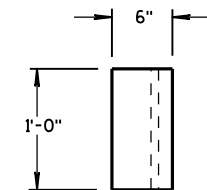
BLOCKOUT
POSTS 1-5



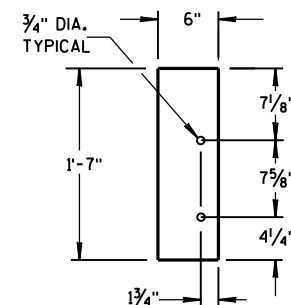
FRONT VIEW

SIDE VIEW

STEEL POSTS 6-17



TOP VIEW



FRONT VIEW

BLOCKOUT
POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

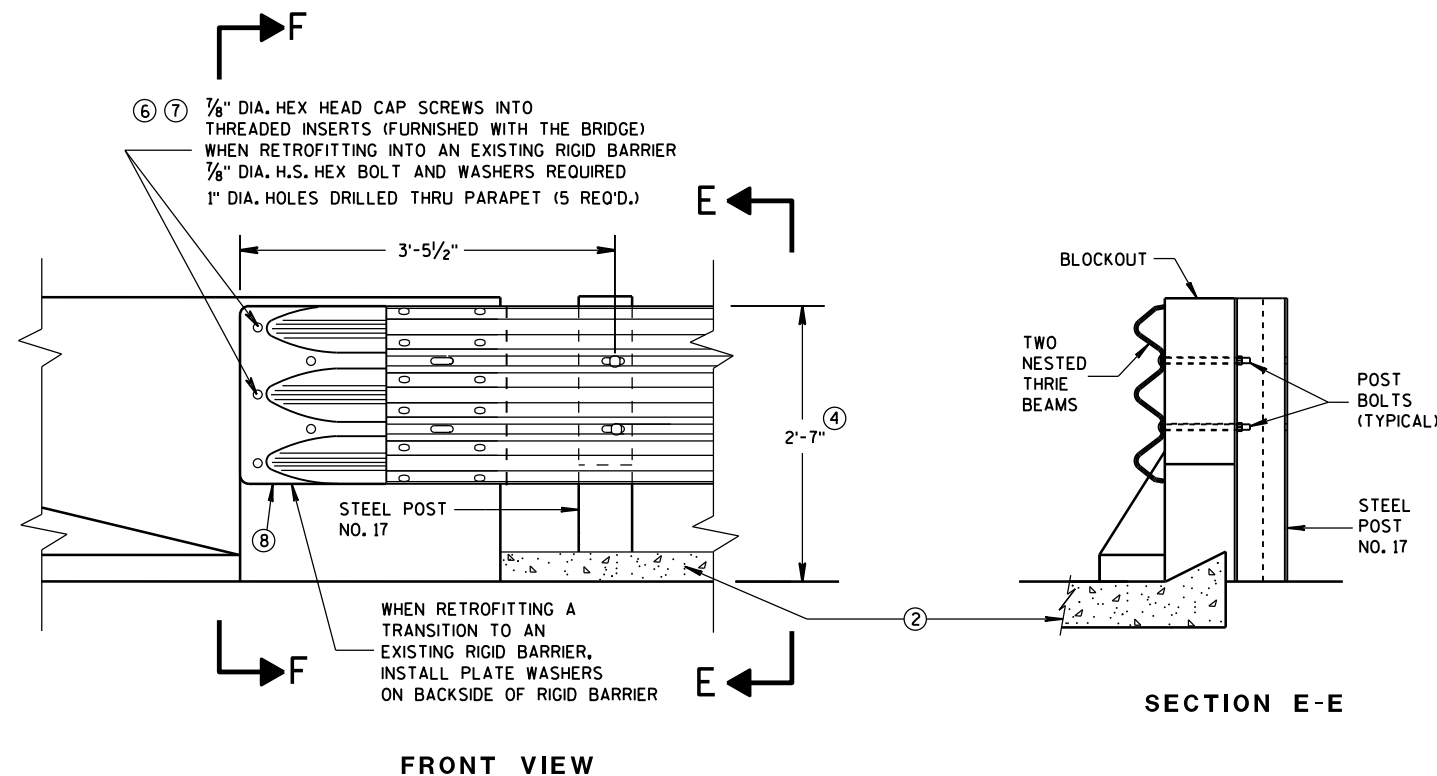
BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.

③ WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

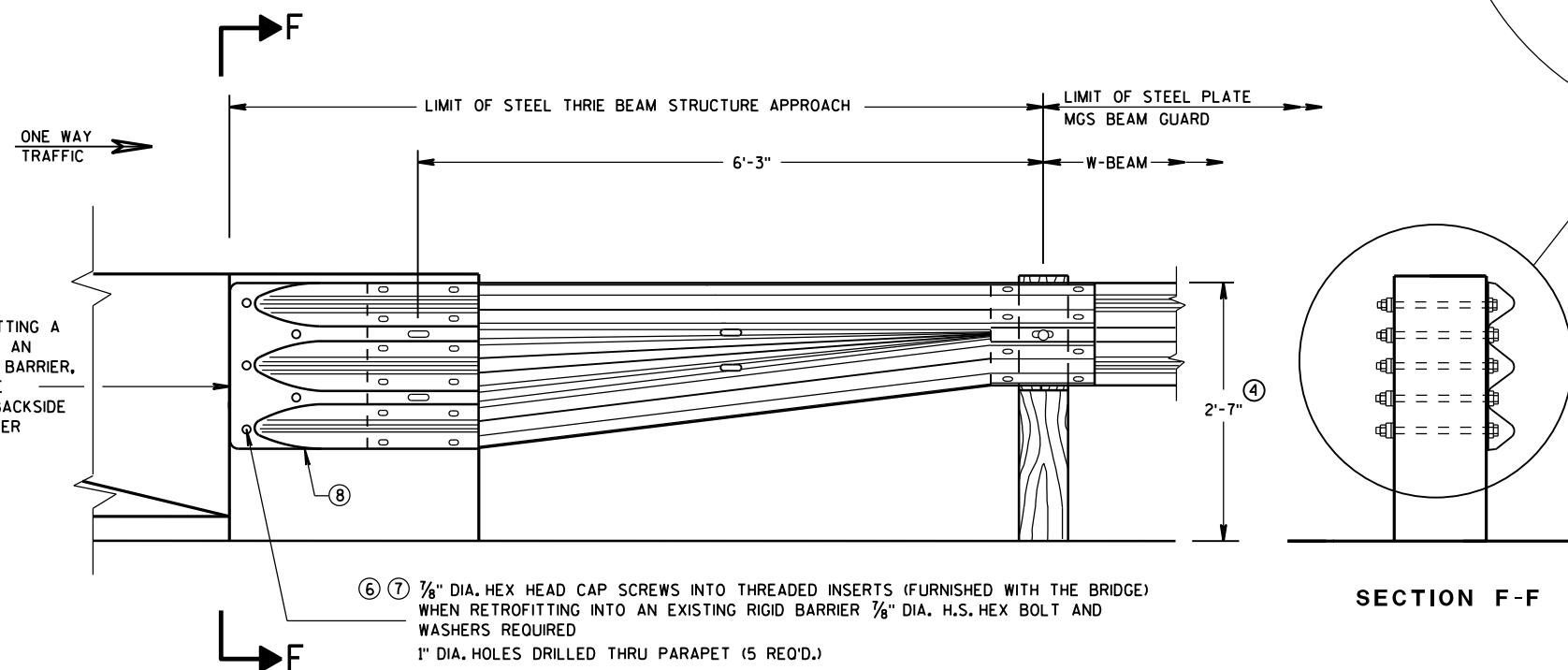
⑤ WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS



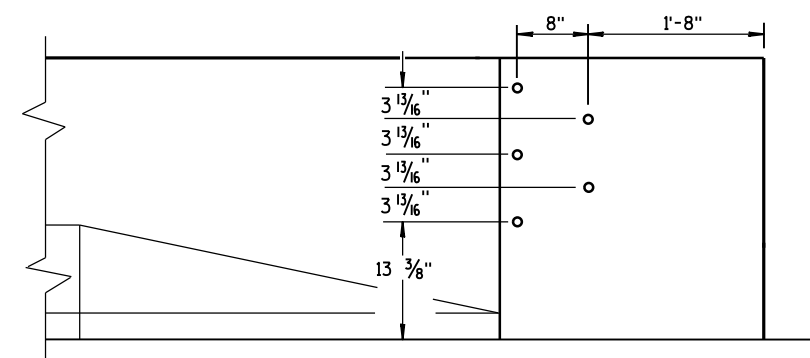
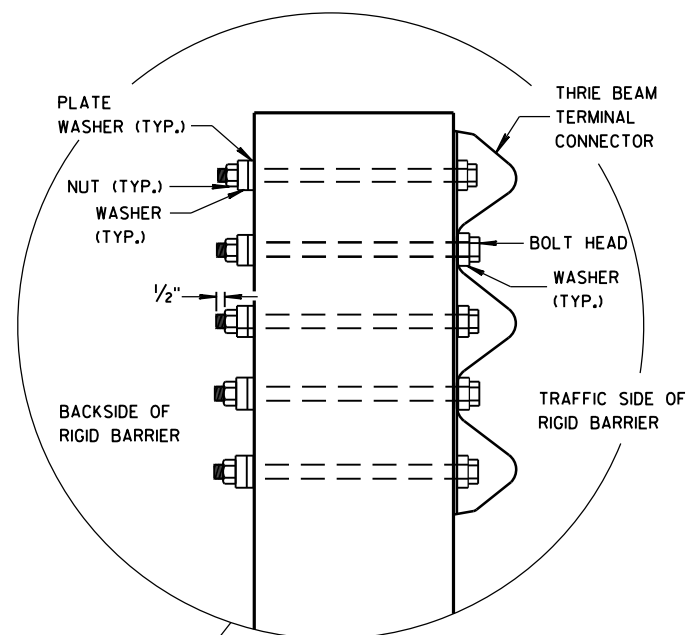
W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSITION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ④ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.
- ⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ⑧ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".



DRILL HOLE LOCATION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June, 2015

DATE

FHWA

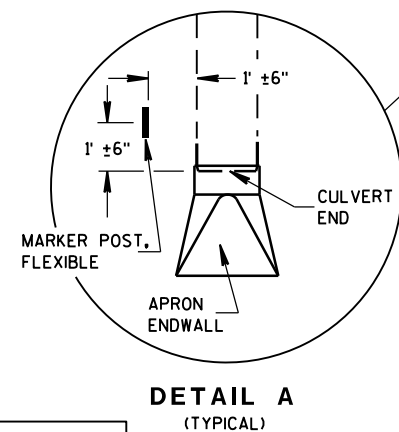
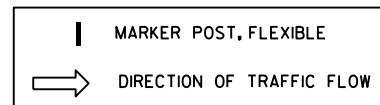
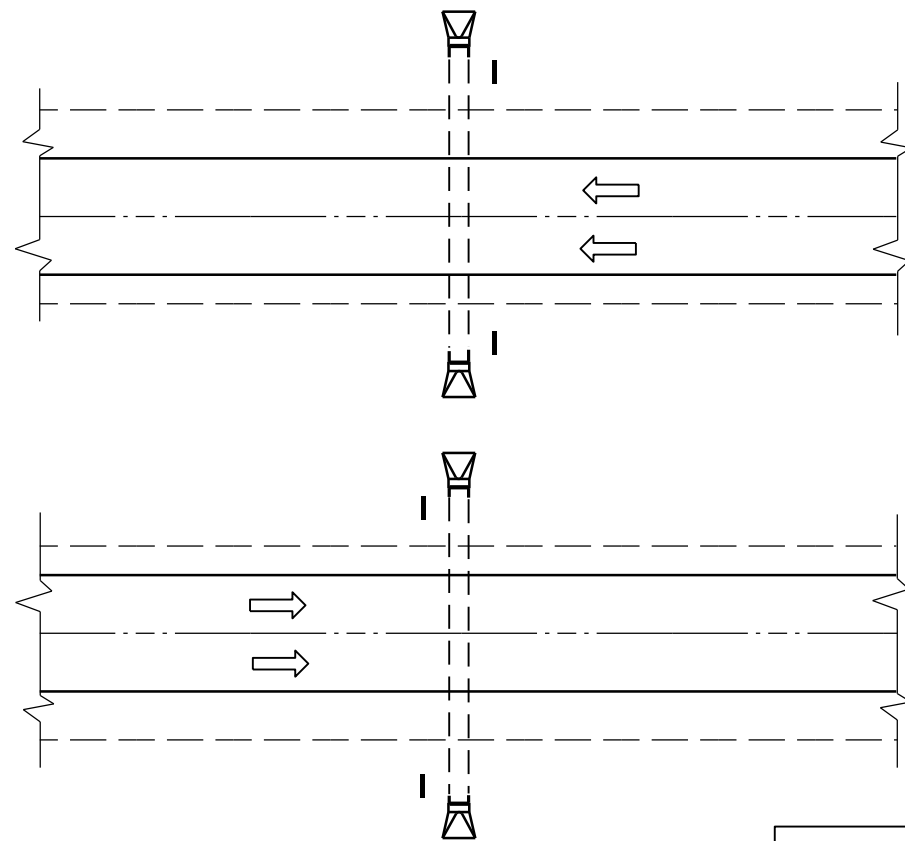
/S/ Jerry H. Zogg

ROADWAY STANDARDS D 62

ENGINEER

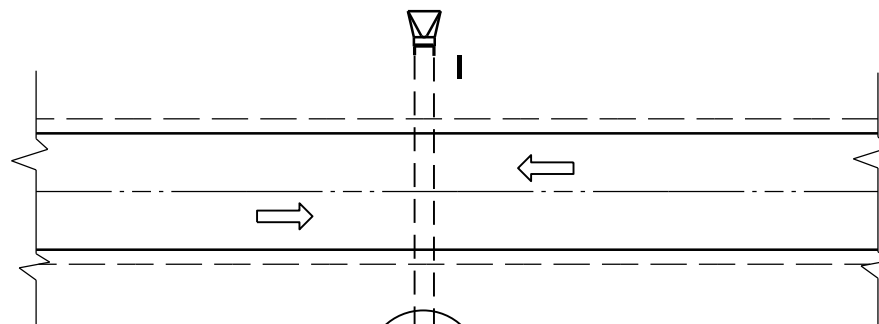
NT

PLAN VIEW
DIVIDED HIGHWAY

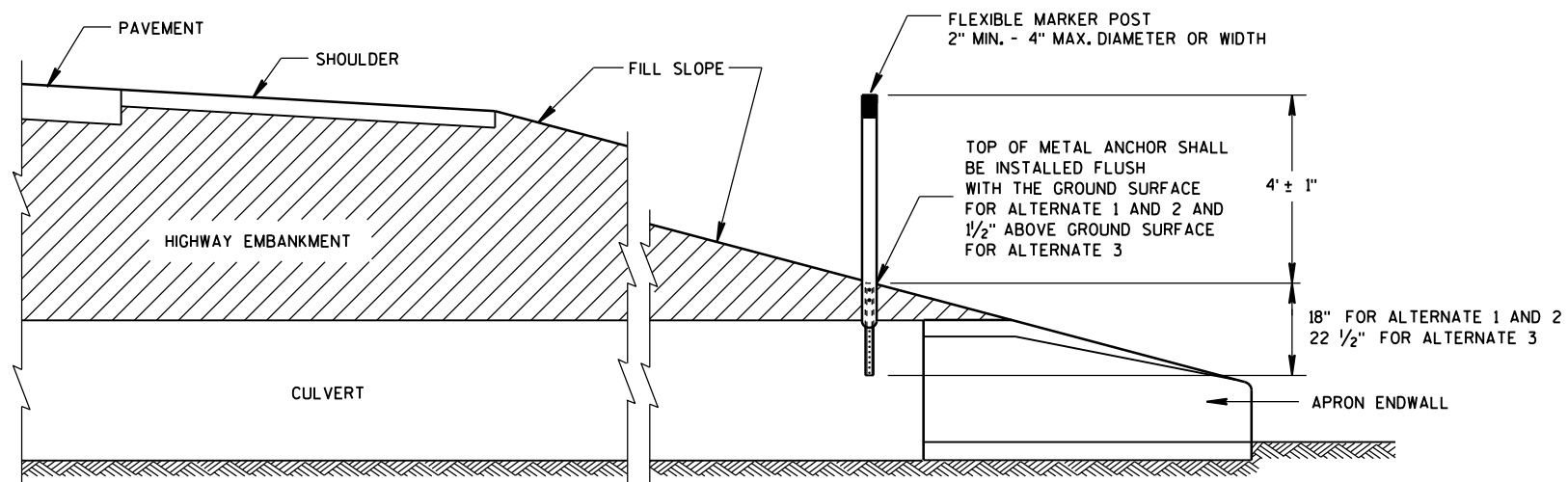


DETAIL A
(TYPICAL)

PLAN VIEW
UNDIVIDED HIGHWAY



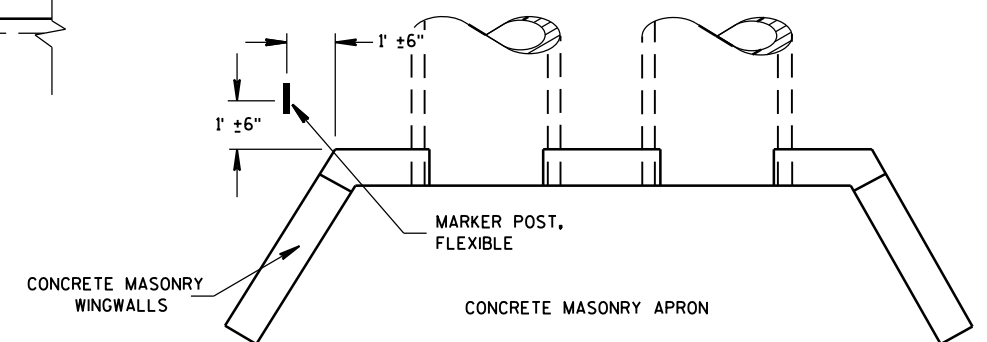
FLEXIBLE MARKER POST LOCATION



CROSS SECTION
FLEXIBLE MARKER POST

GENERAL NOTES

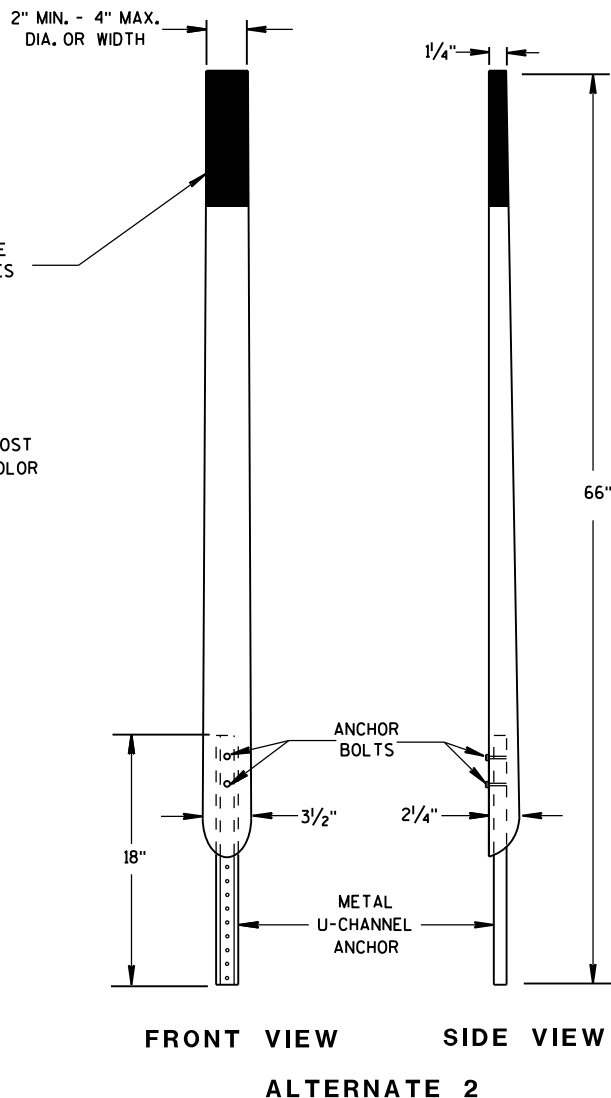
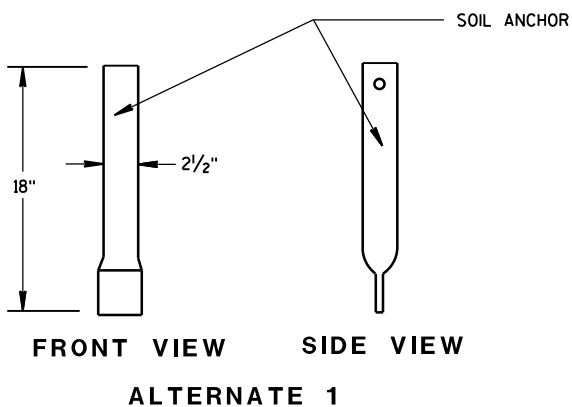
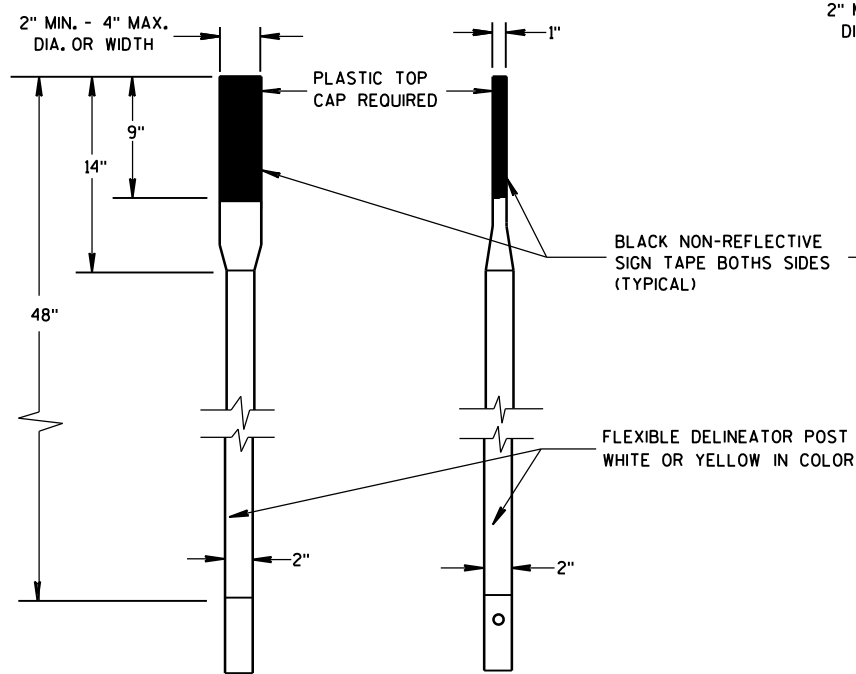
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



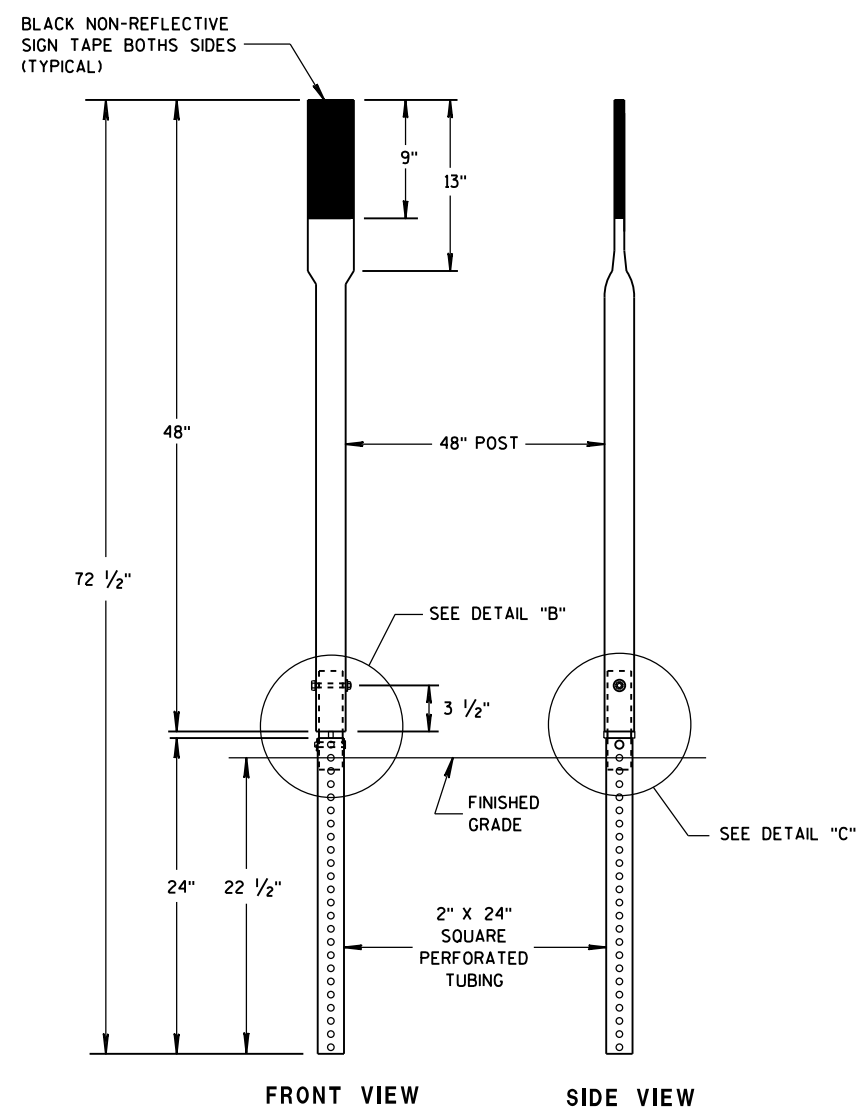
PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH

FLEXIBLE MARKER POST
FOR CULVERT END

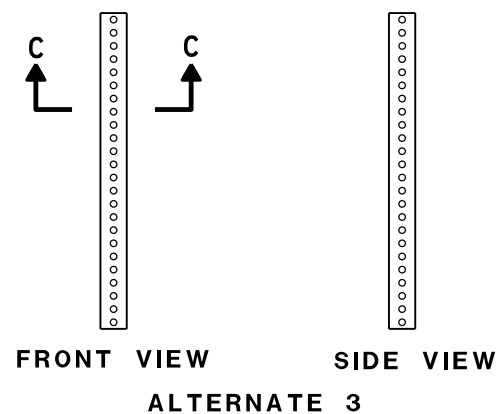
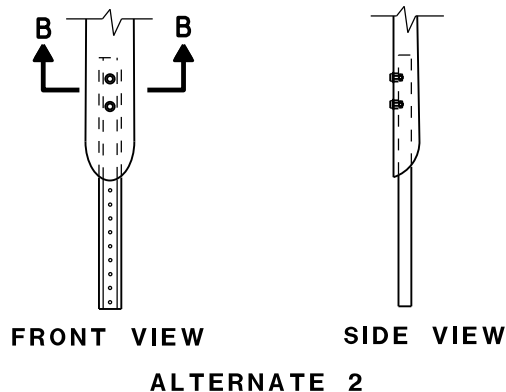
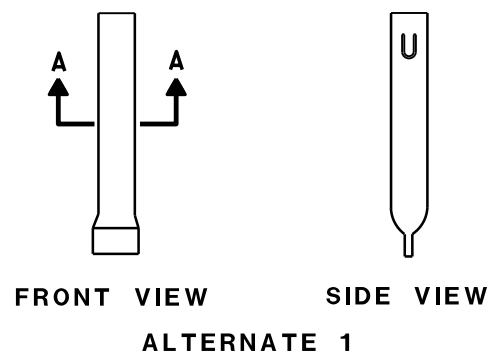
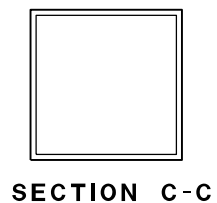
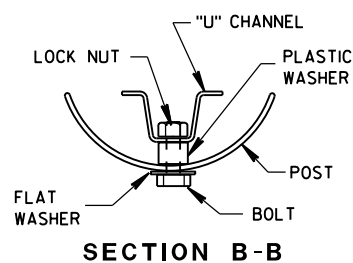
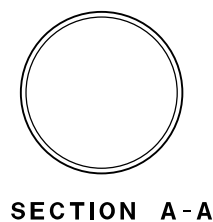
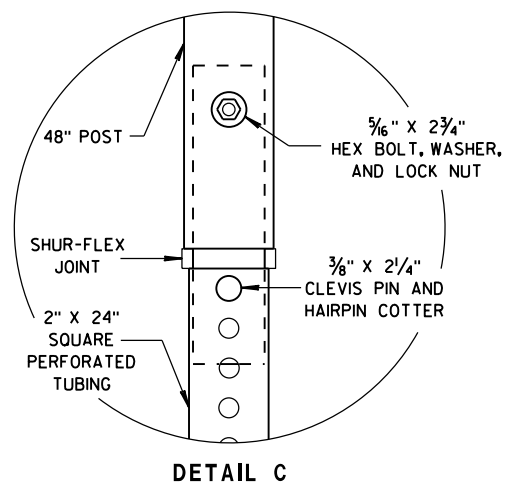
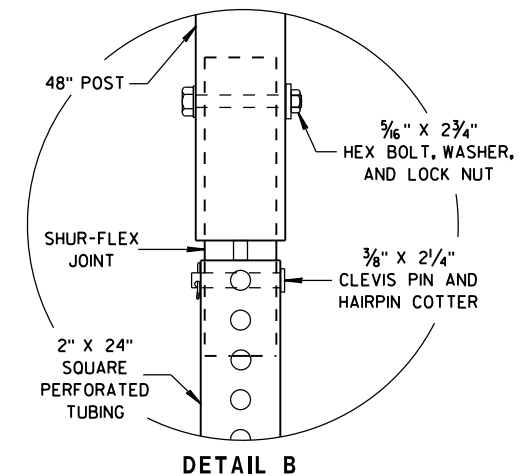
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



FLEXIBLE MARKER POSTS



ALTERNATE 3



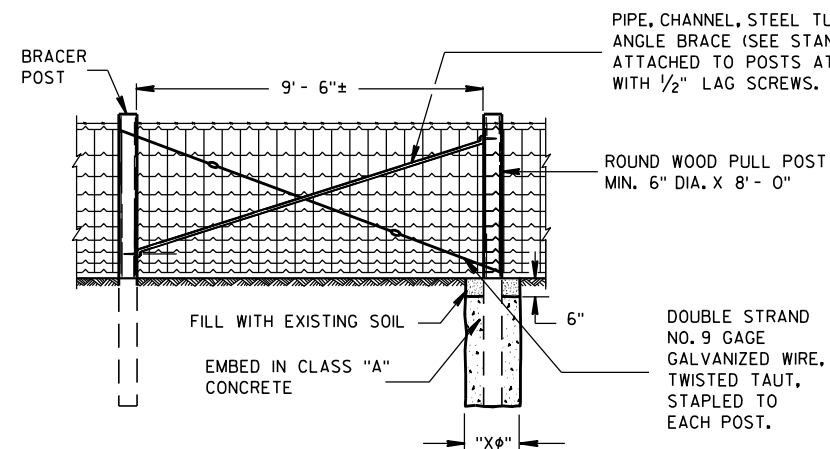
FLEXIBLE MARKER POST ANCHORS

FLEXIBLE MARKER POST
FOR CULVERT END

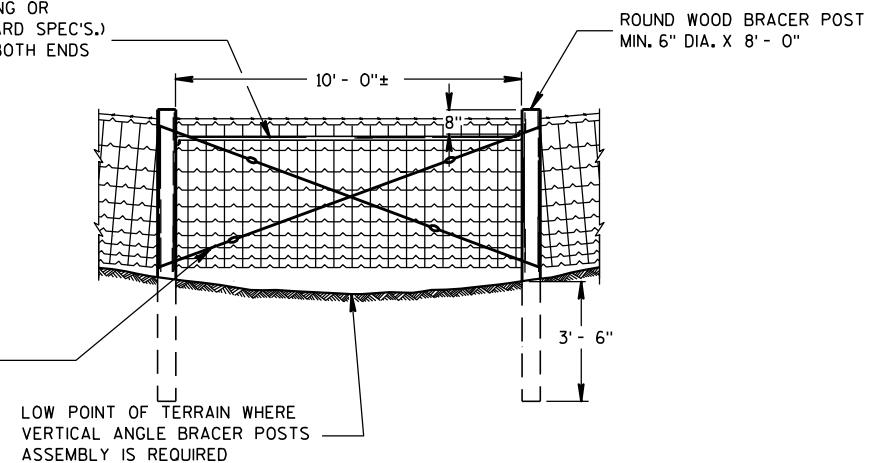
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/1/2012 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER 64 IGN
FHWA

ILLUSTRATION SHOWS POSITION OF STANDARD STEEL BRACE, DOUBLE STRAND GALVANIZED WIRE, AND THE POST TO BE EMBEDDED IN CONCRETE WHEN WIRE FENCE IS INSTALLED FROM LEFT TO RIGHT. THE BRACES SHALL BE POSITIONED ON THE OPPOSITE DIAGONALS AND THE OPPOSITE POST SHALL BE EMBEDDED IN CONCRETE WHEN WIRE FENCE IS INSTALLED FROM RIGHT TO LEFT.



PULL OR STRETCHER POSTS ASSEMBLY

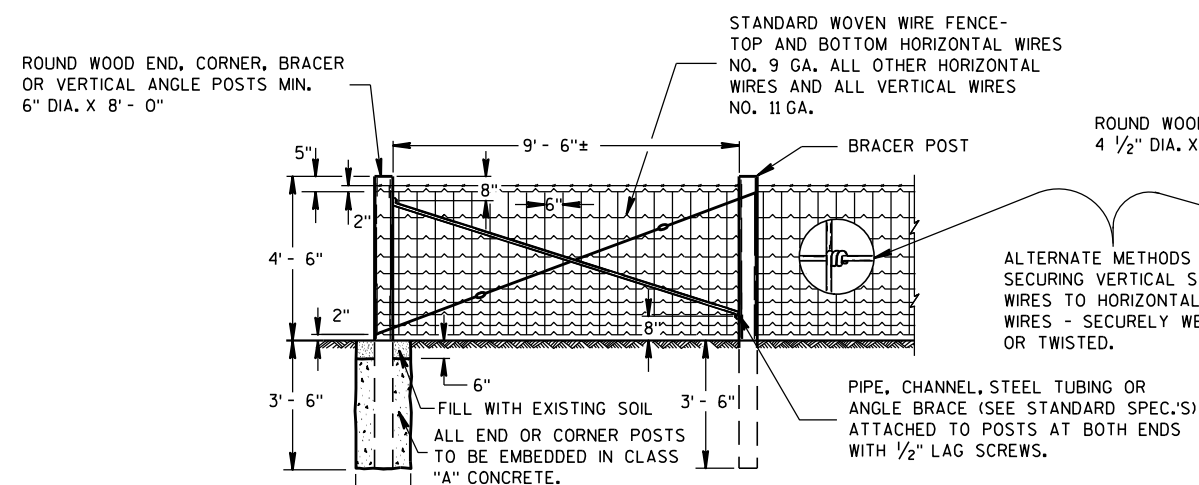


VERTICAL ANGLE BRACER POSTS ASSEMBLY

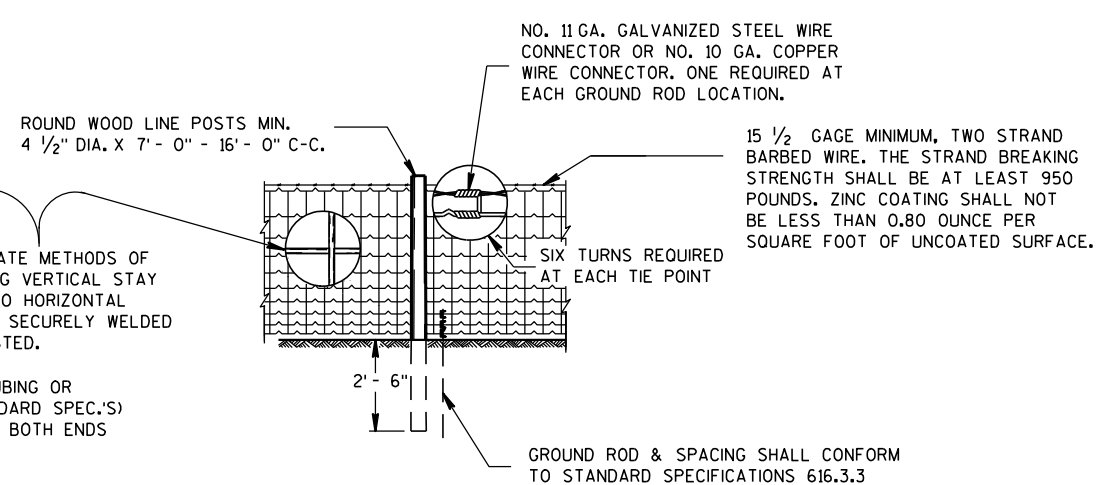
"X ϕ " = DIAMETER OF THE POST PLUS 12".

DO NOT STAPLE WIRE TIGHT TO THE LINE POSTS. ALLOW MOVEMENT OF WIRE FOR EXPANSION AND CONTRACTION. STAPLE ARRANGEMENT SHALL BE THE SAME FOR ALL OTHER POSTS EXCEPT THAT THEY SHALL BE DRIVEN TIGHT TO POSTS. ALL STAPLES SHALL BE 2" X 9 GAGE AND SHALL BE MANUFACTURED FROM GALVANIZED WIRE OR HOT DIP GALVANIZED AFTER FORMING. STAPLES SHALL HAVE SLASH-CUT POINTS.

FENCE SHALL BE LOCATED 3'-0" INSIDE
THE RIGHT OF WAY LINE UNLESS
OTHERWISE INDICATED ON THE PLANS.

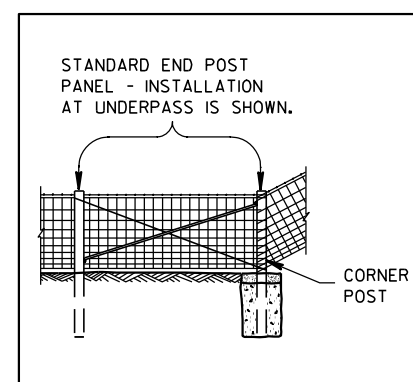


END OR CORNER POSTS ASSEMBLY

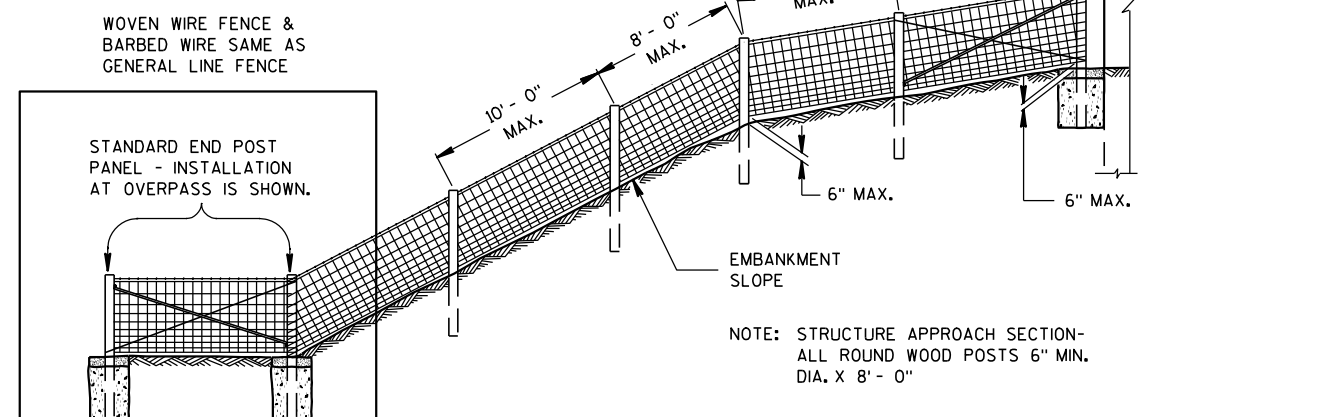


LINE FENCE CONSTRUCTION

GENERAL ROADSIDE VIEW OF WOVEN WIRE FENCE



ALTERNATE FENCE DESIGN AT STRUCTURE

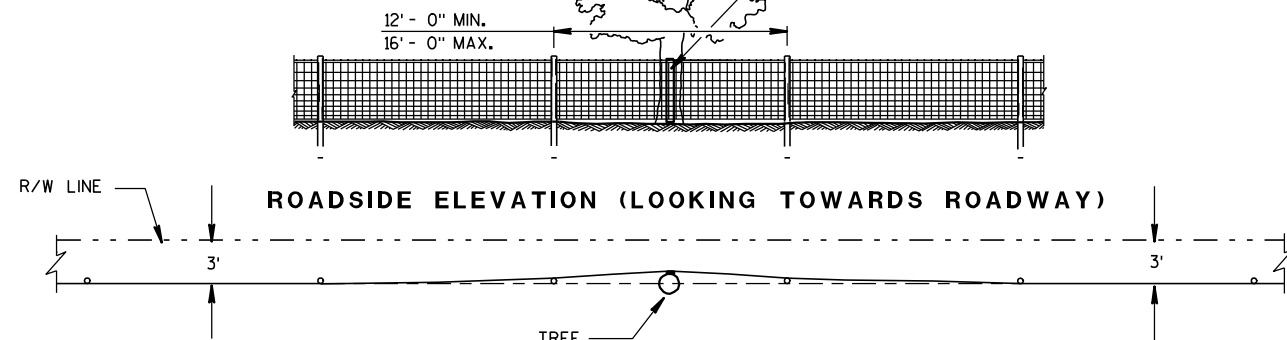


FENCE DESIGN AT STRUCTURE APPROACH

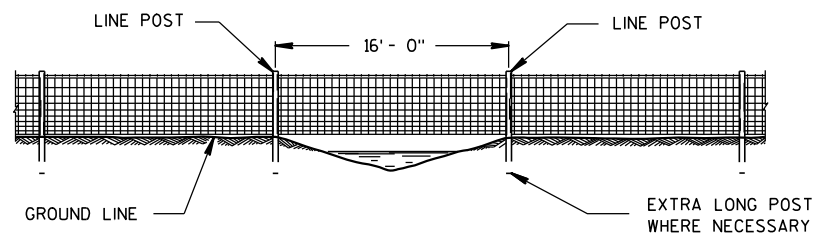
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

NOTE: TREE IN NORMAL FENCE LINE SPECIFICALLY ORDERED BY ENGINEER TO REMAIN IN PLACE.

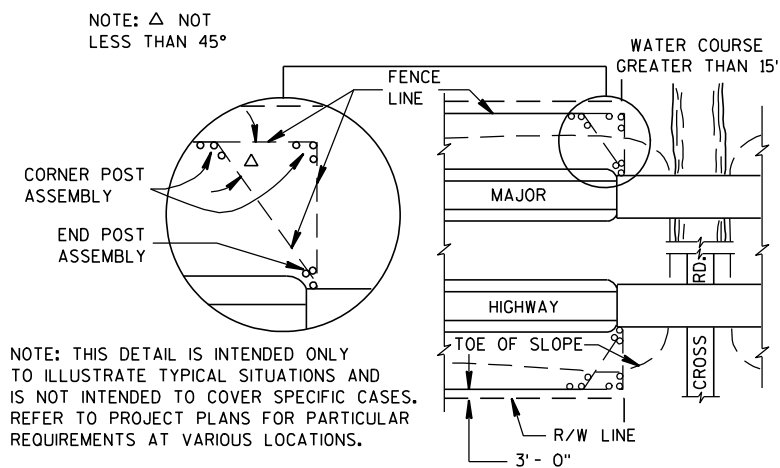
2" X 6" DOUGLAS FIR OR SO. YELLOW PINE PLACED BETWEEN TREE AND WOVEN WIRE FENCE. WOVEN WIRE FENCE AND BARBED WIRE TO BE STAPLED TO 2" X 6" LIKE AS TO LINE POST. 2" X 6" NOT FASTENED TO TREE.



PLAN VIEW
FENCE DESIGN AT TREES REMAINING
IN NORMAL FENCE LINE

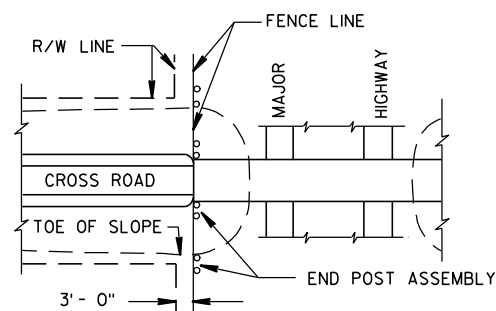


FENCE CONSTRUCTION OVER STREAM
COURSES OF 15 FT. OR LESS IN WIDTH



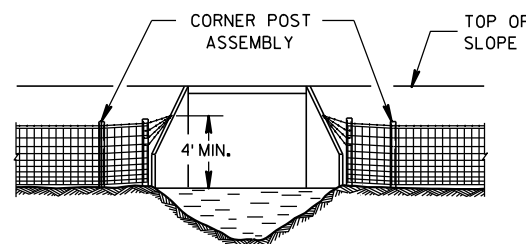
NOTE: THIS DETAIL IS INTENDED ONLY TO ILLUSTRATE TYPICAL SITUATIONS AND IS NOT INTENDED TO COVER SPECIFIC CASES. REFER TO PROJECT PLANS FOR PARTICULAR REQUIREMENTS AT VARIOUS LOCATIONS.

PLAN VIEW
MAJOR HIGHWAY OVERPASS OR STREAM COURSE
CROSSING OF GREATER THAN 15 FT. IN WIDTH



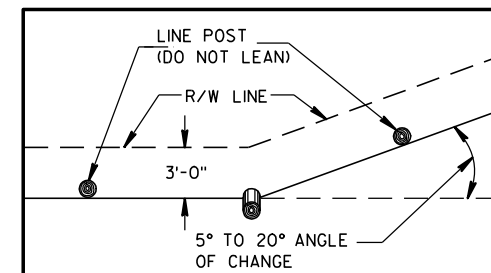
PLAN VIEW
MAJOR HIGHWAY UNDERPASS

FENCE LOCATION AT STRUCTURES

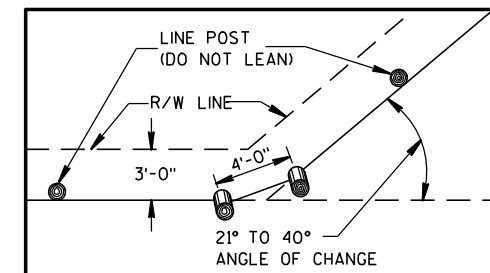


NOTE: PLACE A MINIMUM OF 4 STRANDS OF BARBED WIRE, 6" MAXIMUM CENTERS IN FAN SHAPE CONNECTED TO AN EYE BOLT ON WINGWALL OR SET A LONE POST WHEN NECESSARY TO CONNECT BARBED WIRE.

FENCE INSTALLATION TO WINGWALLS



PLAN VIEW
SINGLE POST CORNER

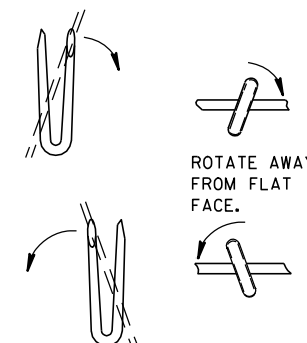


PLAN VIEW
DOUBLE POST CORNER

RIGHT OF WAY LINE CHANGE 40° AND LESS

NOTE: SINGLE AND DOUBLE POSTS SHALL BE A MIN. 6" DIA. X 8'-0" WITH A LEAN OF 4" TOWARD THE OUTSIDE OF THE CURVE.

WHEN THE RIGHT OF WAY LINE CHANGE IS MORE THAN 40° USE THE CORNER OR STRETCHER POSTS ASSEMBLY.



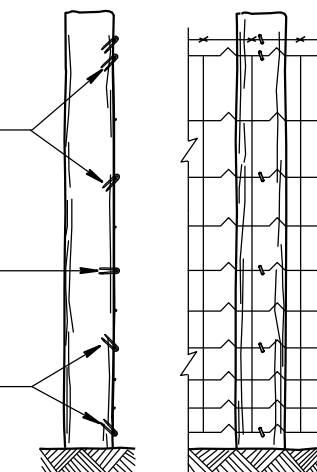
LINE POST

NOTE: WHEN POSTS ARE DRIVEN THE SMALL END SHALL BE DOWN.

STAPLES SLOPED DOWNWARD FOR SUSTAINED GRADES AND OVER KNOLLS.

STAPLES LEVEL FOR LEVEL GROUND.

SLOPE UPWARDS WHEN FENCE TENDS TO LIFT.



END ELEVATION FARM SIDE ELEVATION
FENCE MOUNTING DETAIL

FENCE WOVEN WIRE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4/4/2008

DATE

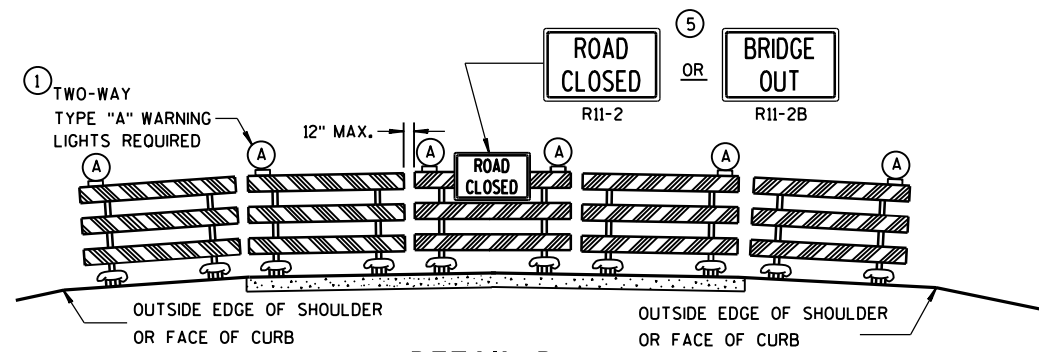
FHWA

/S/ Jerry H. 7----

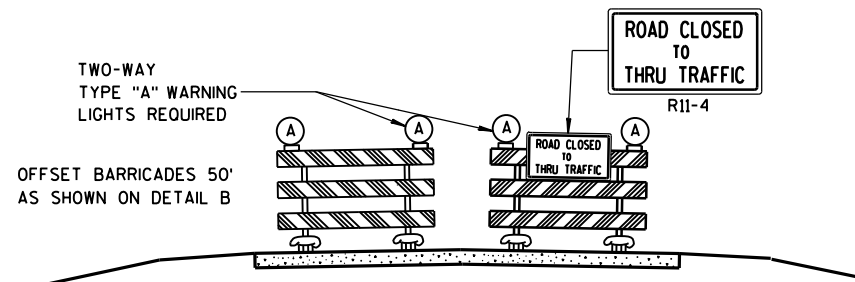
ROADWAY STANDARDS 166

ENGINEER

ENT



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2-SHEET "a" FOR LEGEND

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND BARRICADES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL D FOR FULL ROAD CLOSURES.

TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11-2, R11-3, M4-9, R11-4 AND R10-61 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

"WO" AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

R11-2 SHALL BE 48" X 30".

R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".

M4-9 SHALL BE 30" X 24".

M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)

M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)

M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)

M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)

D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

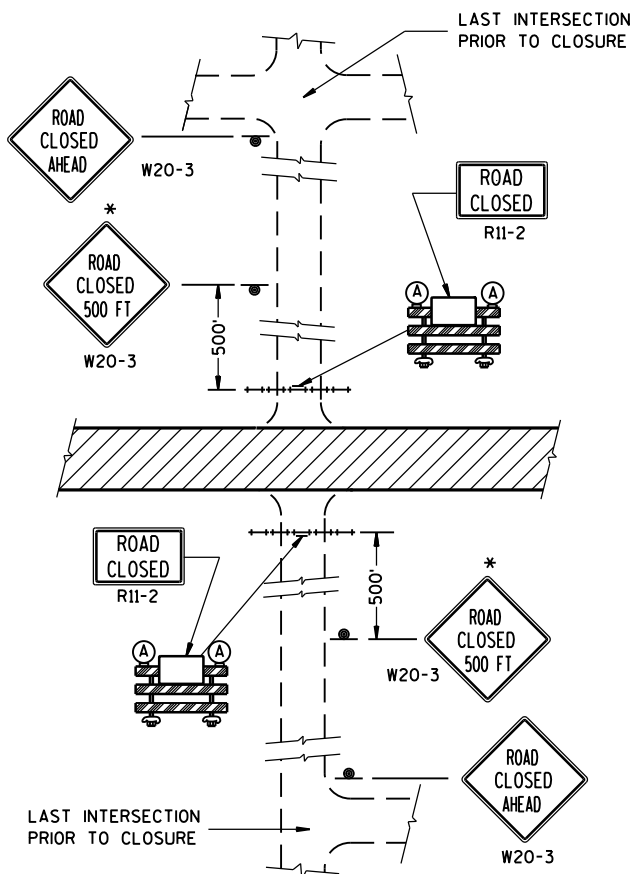
R1-1 SHALL BE 36" X 36".

- ① TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8-FOOT LIGHT SPACING).
- ② THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.
- ③ FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL D.
- ④ FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE LANE CLOSURE BARRICADE DETAIL E.
- ⑤ FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11-2 AND R11-3 SIGNS.
- ⑥ INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.
- ⑦ "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

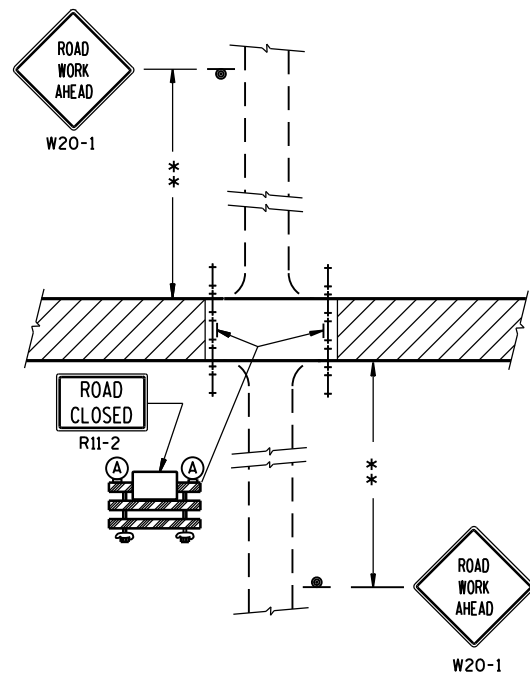
BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

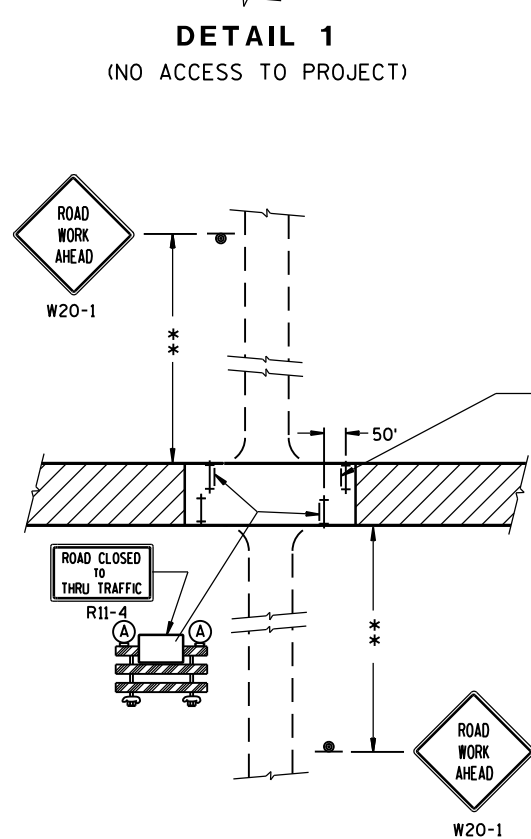
8/2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINE 68 ESIGN
FHWA



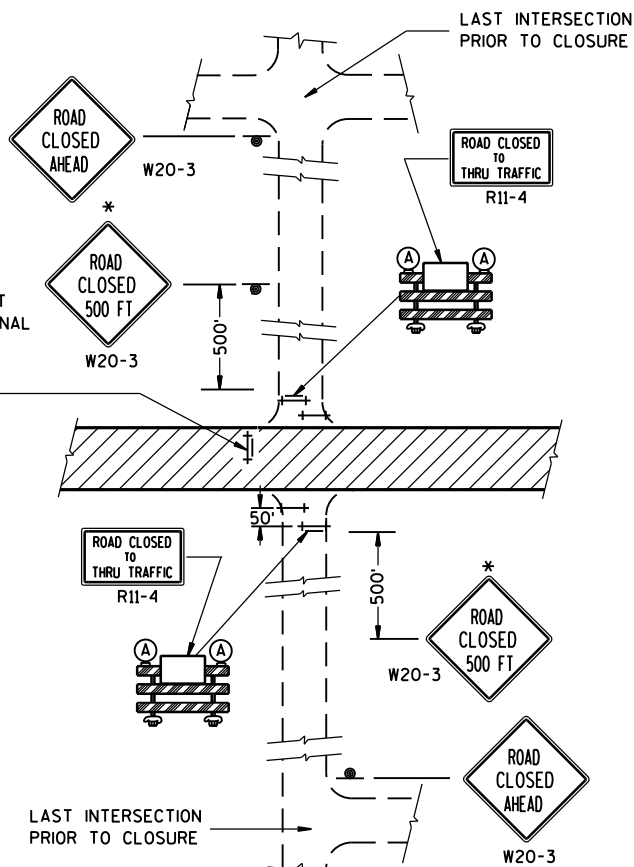
DETAIL 1
(NO ACCESS TO PROJECT)



DETAIL 2
(PUBLIC CROSS-TRAFFIC MAINTAINED.
NO ACCESS TO PROJECT).



DETAIL 3
(PUBLIC CROSS-TRAFFIC MAINTAINED. CONTRACTOR,
LOCAL BUSINESS AND RESIDENT ACCESS).



DETAIL 4
(CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND BARRICADES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS RE-ESTABLISHED.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL D FOR FULL ROAD CLOSURES.

TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11-2, R11-3 AND R11-4 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

R11-2 SHALL BE 48" X 30".

R11-4 AND R11-3 SHALL BE 60" X 30".

*OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FT. OR LESS FROM THE WORK ZONE.

**500' MAX. OR AT LAST INTERSECTION WHICHEVER IS CLOSER.

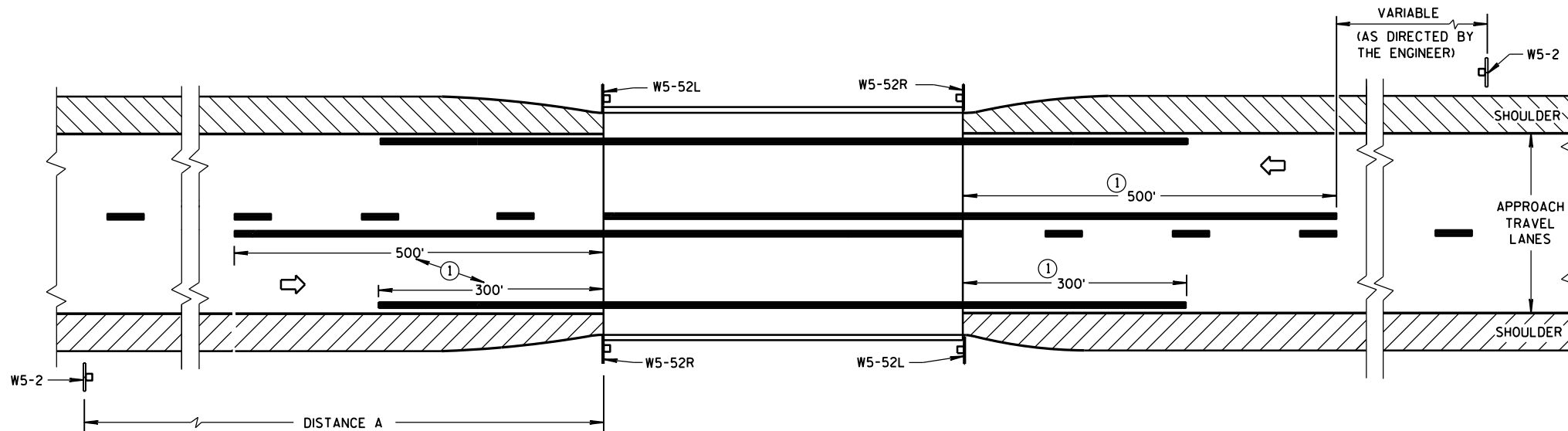
LEGEND

- ⊙ SIGN ON PERMANENT SUPPORT
- ⊢ TYPE III BARRICADE
- ⊢ TYPE III BARRICADE WITH ATTACHED SIGN
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- ▨ WORK AREA

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 /S/ Travis Fettes
DATE STATE TRAFFIC ENGINE 69 :SIGN
FHWA



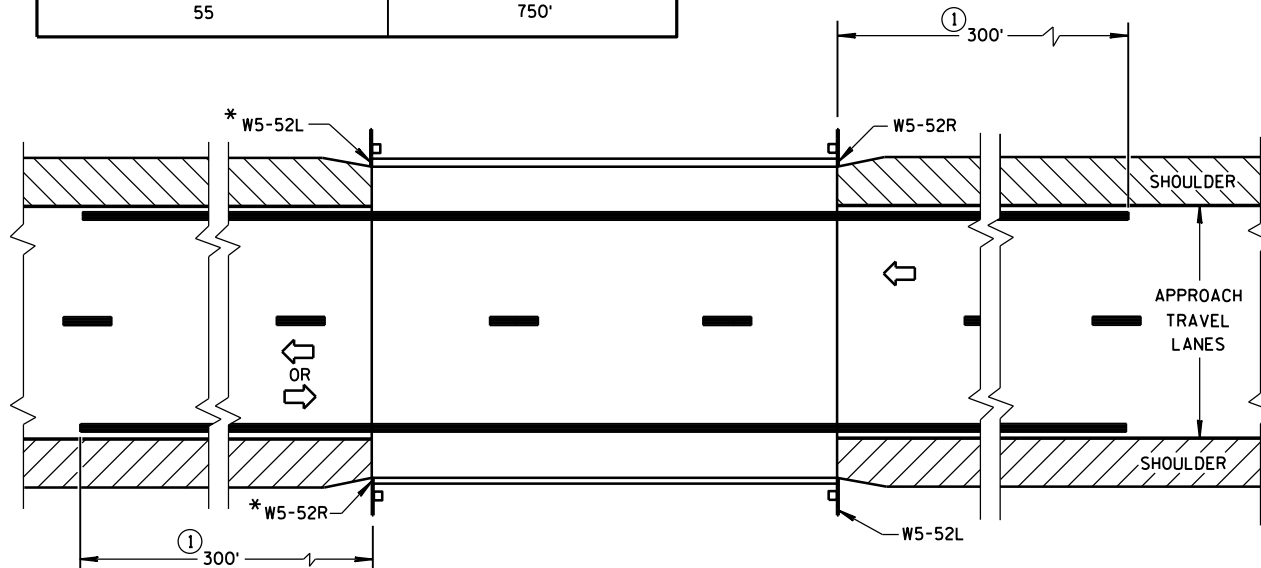
SITUATION 1

WARRANTING CRITERIA:

BRIDGE WIDTH IS AT LEAST 16 FEET BUT LESS THAN 24 FEET

DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	750'

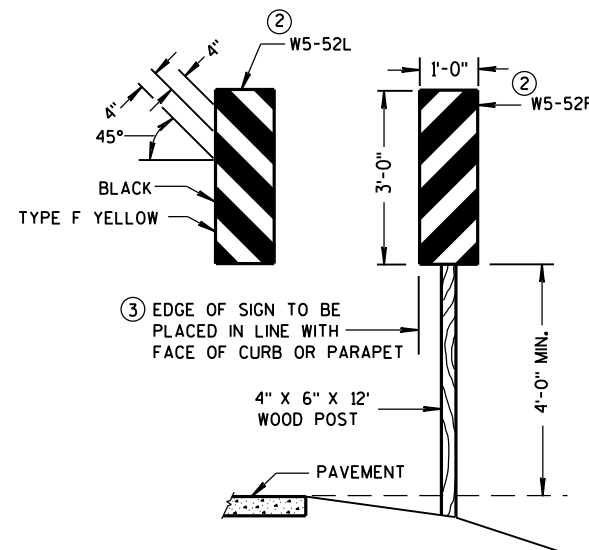


*OMIT ON ONE-WAY TRAVELLED WAYS

SITUATION 2

WARRANTING CRITERIA:

1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE IS LESS THAN 6 FEET WIDER (ON EACH SIDE) THAN APPROACH TRAVEL LANES.



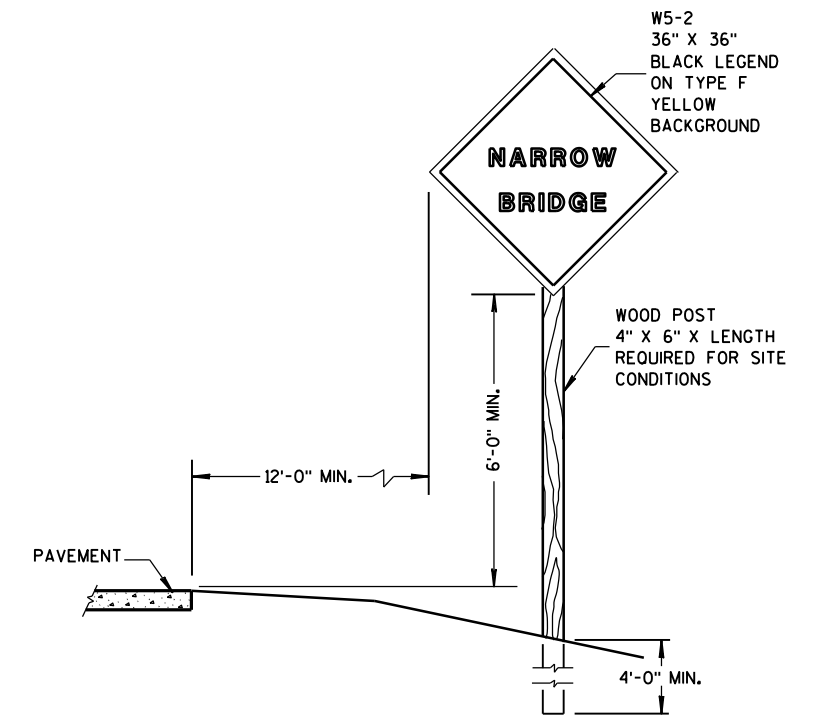
OBJECT MARKER PLACEMENT

GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

PAVEMENT MARKING SHOWN ON THIS DRAWING IS NOT REQUIRED UNLESS OTHERWISE SPECIFIED IN THE CONTRACT. WHEN SPECIFIED, PAVEMENT MARKING SHALL CONFORM TO THIS DRAWING AND OTHER CONTRACT REQUIREMENTS.

- ① MINIMUM DISTANCE UNLESS OTHERWISE SHOWN ON THE PLAN.
- ② FACE OF OBJECT MARKERS W5-52R, AND W5-52L SHALL BE COVERED WITH TYPE F REFLECTIVE SHEETING.
- ③ LOCATE OBJECT MARKER POST(S) BEHIND GUARDRAIL WHEN PRESENT.

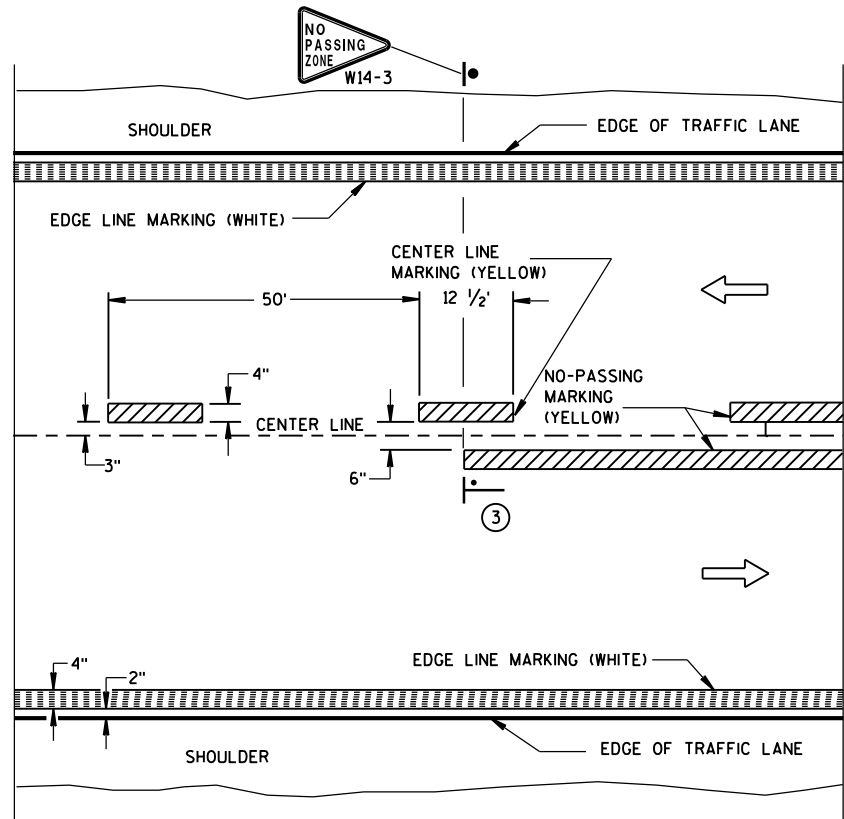


SIGN PLACEMENT

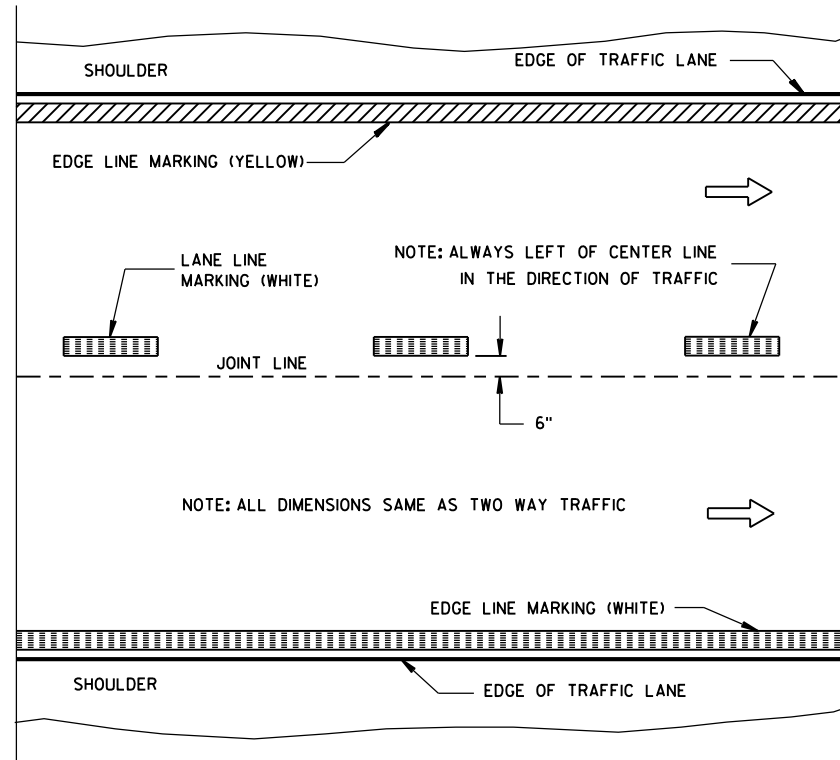
SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3-2014 DATE /S/ Travis Fettes
STATE TRAFFIC ENGINEER JGN
FHWA

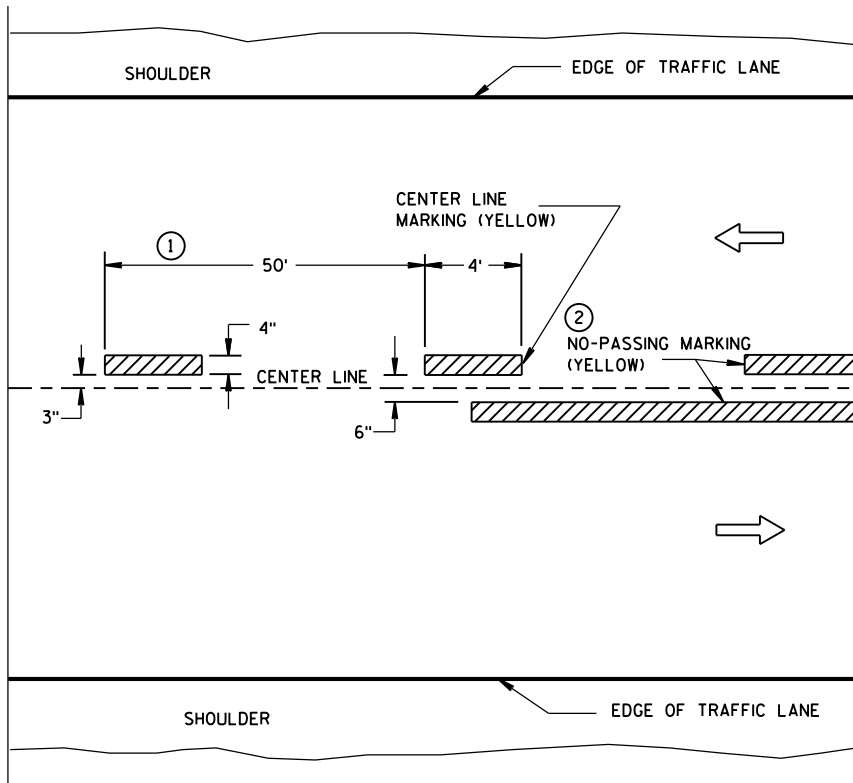


TWO WAY TRAFFIC

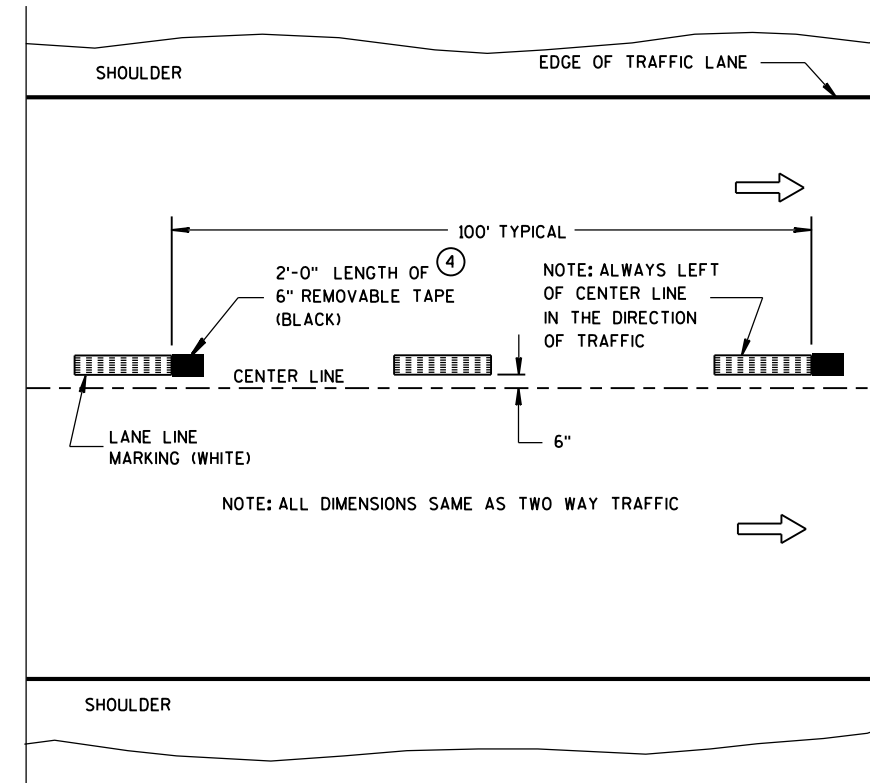


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING
(SHOWS CYCLE FOR TEMPORARY CENTER LINE OR TEMPORARY LANE LINE MARKING)

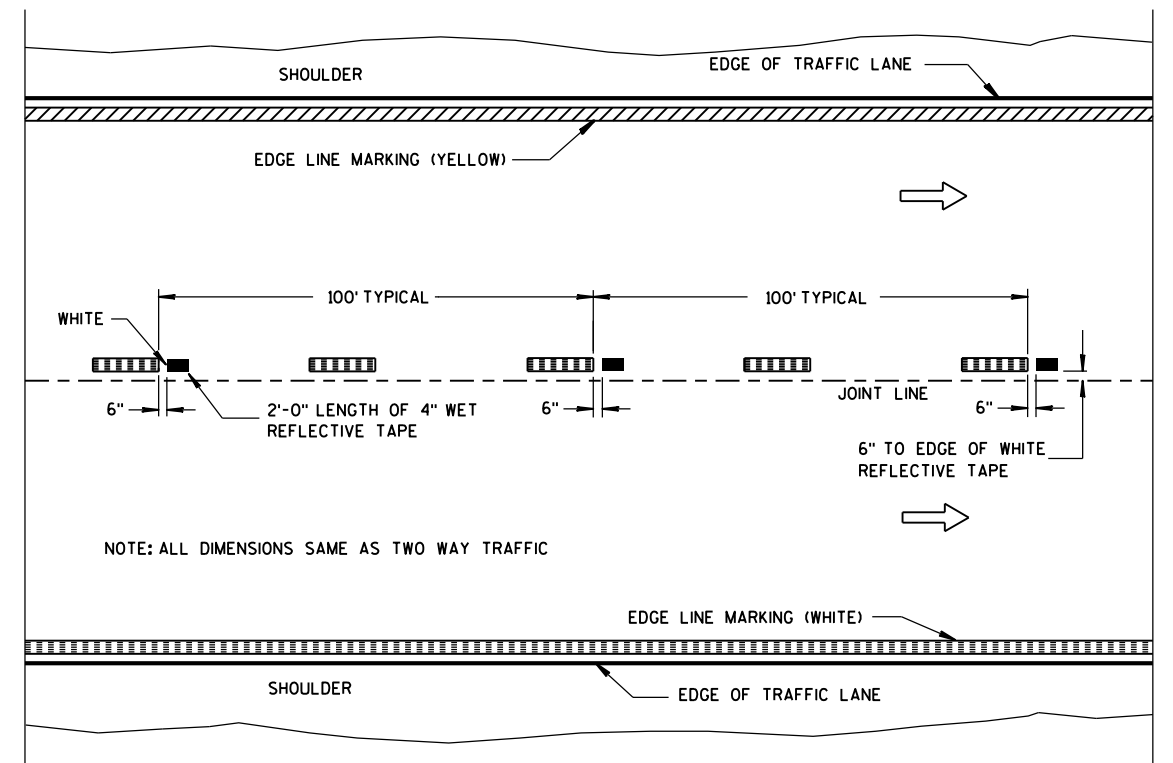
GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

- 1 HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
- 2 NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.
- 3 NO PASSING ZONE MARKINGS ARE PLACED ACCORDING TO "T" MARKINGS. IF EXISTING NO PASSING ZONE W14-3 SIGNS ARE BEYOND 50 FEET IN EITHER DIRECTION, THE SIGNS SHALL BE MOVED TO THE "T" MARKINGS.
- 4 CONCRETE ONLY.

NOTE

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL



WET REFLECTIVE TAPE SUPPLEMENT TO
SPRAYED OR NON WET REFLECTIVE TAPE LANE LINE

LEGEND

- "T" MARKING
- POST MOUNTED SIGN

PAVEMENT MARKING
(MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5-13-2013 /S/ Travis Feltes
DATE STATE TRAFFIC E 71
FHWA

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMENENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKING
- DIRECTION OF TRAFFIC
- WORK AREA

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIREABLE) DISTANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

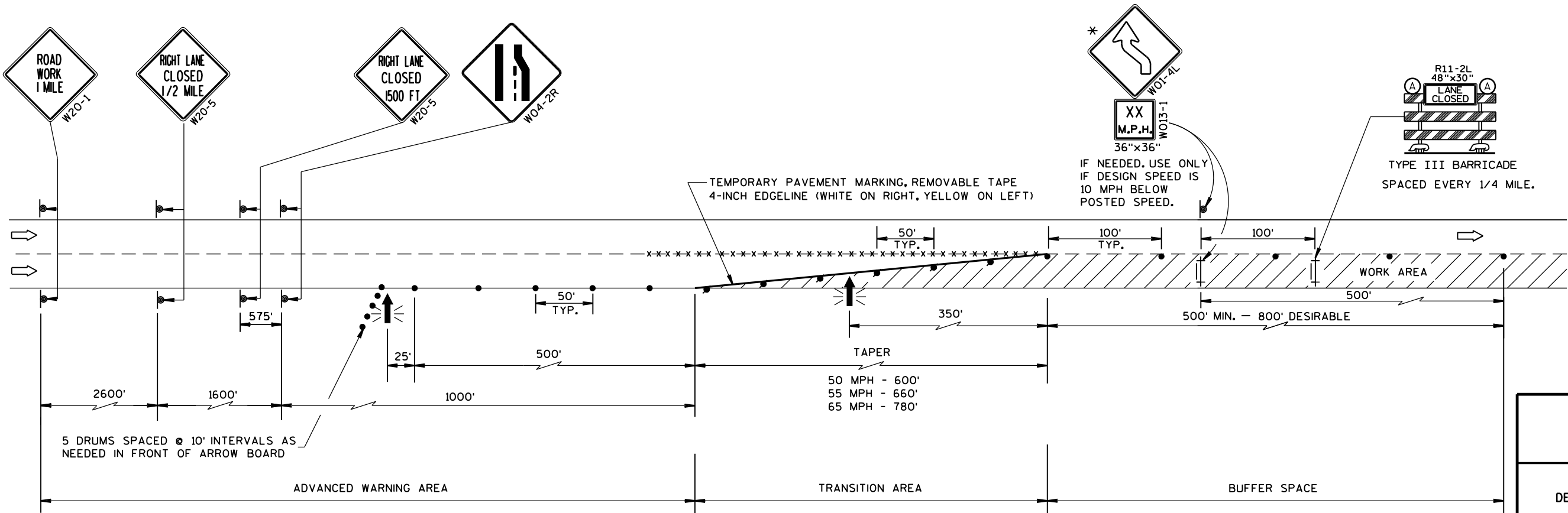
REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 4 OR MORE DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

* THE LEFT REVERSE CURVE SIGN (WO1-4L) IS ONLY REQUIRED WHEN THIS DETAIL IS USED IN COMBINATION WITH "SINGLE LANE CROSSOVER" DETAIL.



TRAFFIC CONTROL, LANE CLOSURE		
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION		
APPROVED Feb. 2015 DATE	/S/ Travis Fettes STATE TRAFFIC ENGINEER 72	SIGN
FHWA		

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIREABLE) DISTANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 4 OR MORE DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

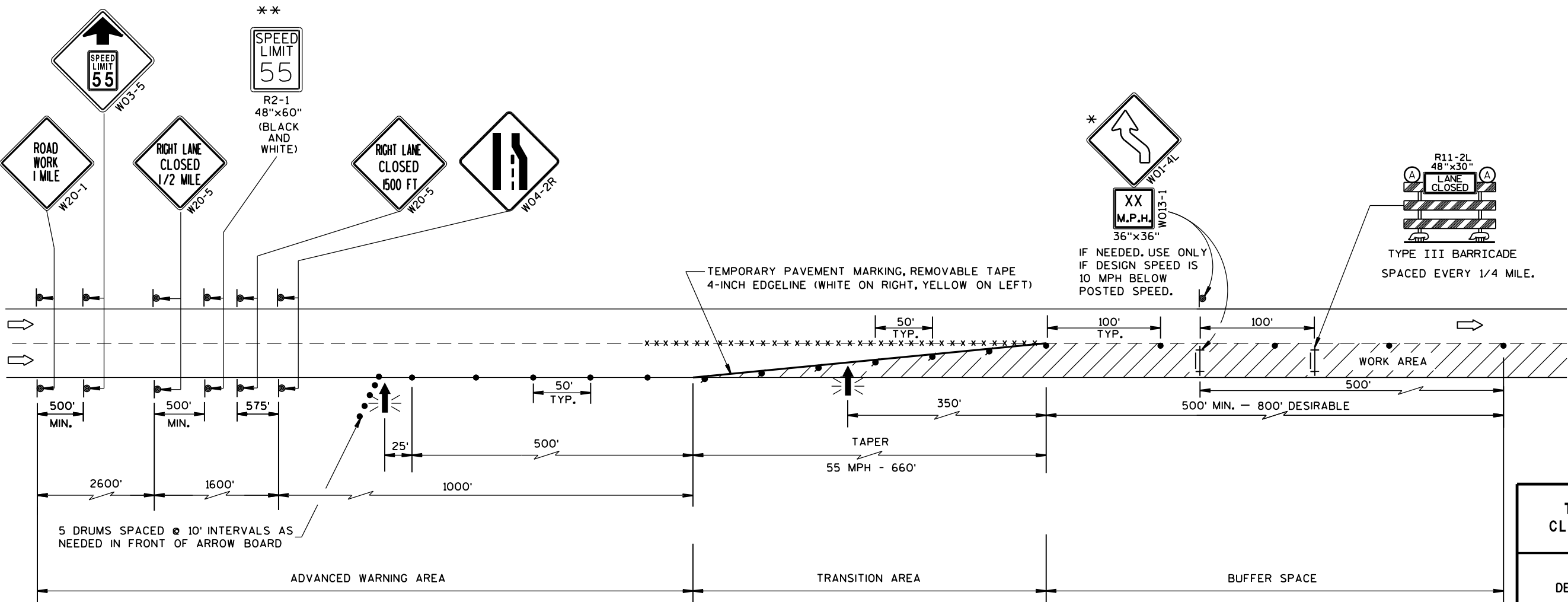
ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

* THE LEFT REVERSE CURVE SIGN (WO1-4L) IS ONLY REQUIRED WHEN THIS DETAIL IS USED IN COMBINATION WITH "SINGLE LANE CROSSOVER" DETAIL.

** A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. THERE SHOULD BE A SPEED LIMIT SIGN INCORPORATED A MINIMUM OF EVERY 2 OR 3 MILES. INCLUDE A 65 MPH RESUME SPEED LIMIT SIGN 200 FEET MINIMUM (500 FEET DESIREABLE) BEYOND THE "END OF ROADWORK" SIGN.

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMENENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKING
- DIRECTION OF TRAFFIC
- WORK AREA



TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED Feb. 2015 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER 73 SIGN
FHWA	

LEGEND

- TRAFFIC CONTROL DRUM
- ⦿ SIGN ON PERMANENT SUPPORT
- ➡ DIRECTION OF TRAFFIC
- ⚡➡ FLASHING ARROW BOARD
- ▨ WORK AREA

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT SHOULDER. FOR CLOSING THE LEFT SHOULDER, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR DIVIDED ROADWAYS WITH ANY NUMBER OF TRAVEL LANES.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

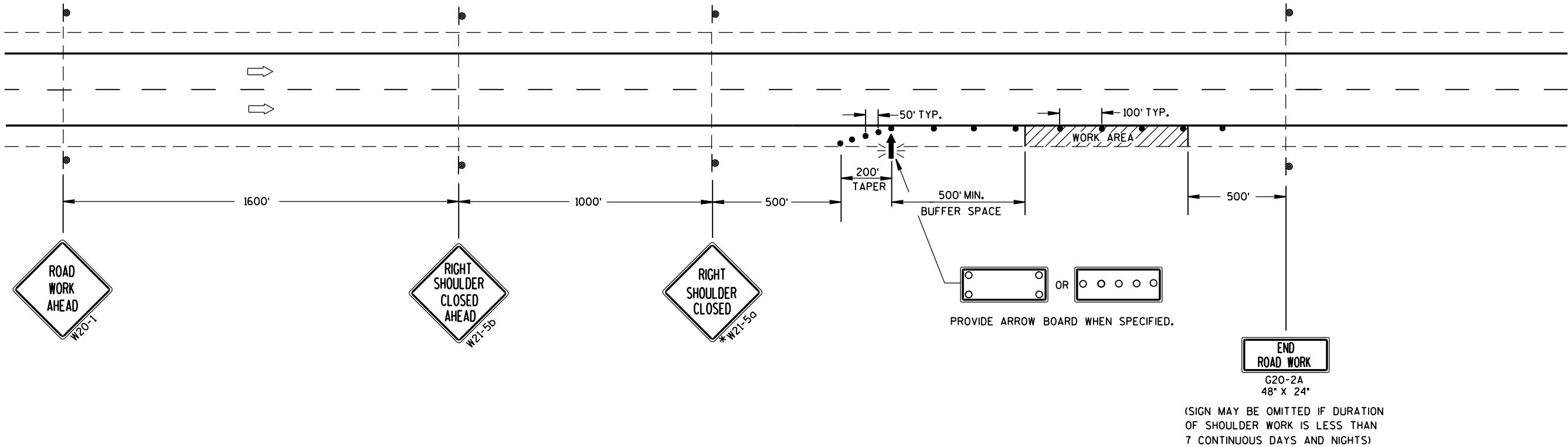
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

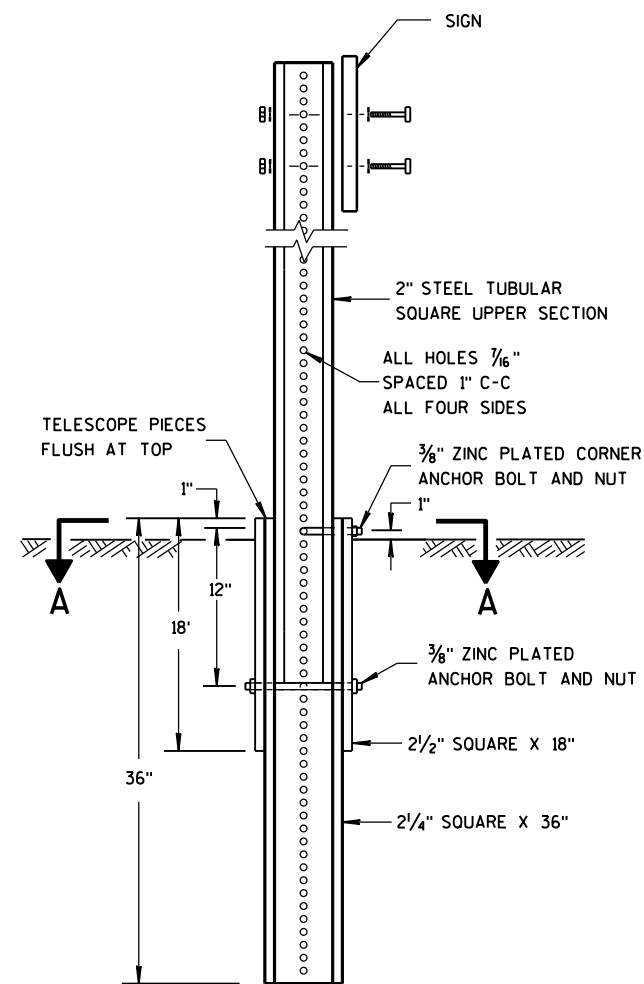
CHANNELIZING DEVICES PLACED ADJACENT TO THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

*FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR, THE W21-5a SIGN MAY BE OMITTED.



TRAFFIC CONTROL SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH		
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION		
APPROVED		
8/2013	/S/ Travis Feltz	
DATE	STATE TRAFFIC ENGINE 74	SIGN
FHWA		



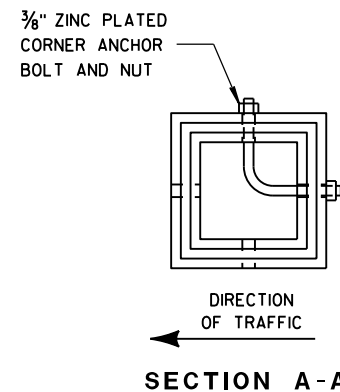
DETAIL OF TUBULAR
STEEL SIGN POST

TUBULAR STEEL POSTS

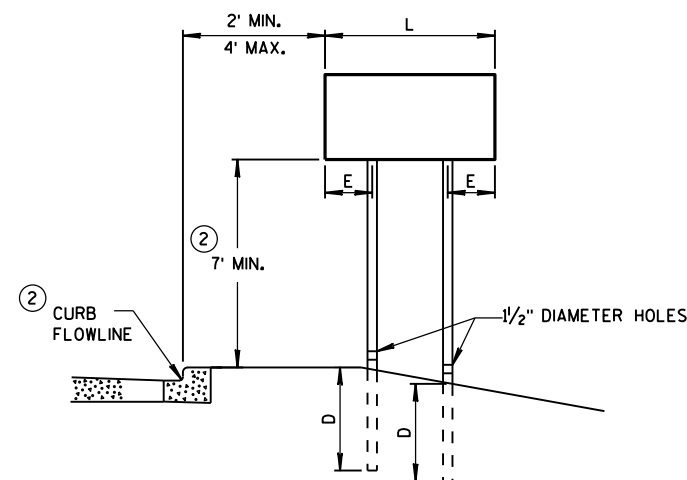
AREA OF SIGN INSTALLATION (SQ. FT.)	NUMBER OF REQUIRED TUBULAR STEEL POSTS
9 OR LESS	1
GREATER THAN 9 LESS THAN OR EQUAL TO 18	2
GREATER THAN 18 LESS THAN OR EQUAL TO 27	3

SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SQ. FT. SHALL
BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE).

SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED
ON TUBULAR STEEL POSTS.



SECTION A-A

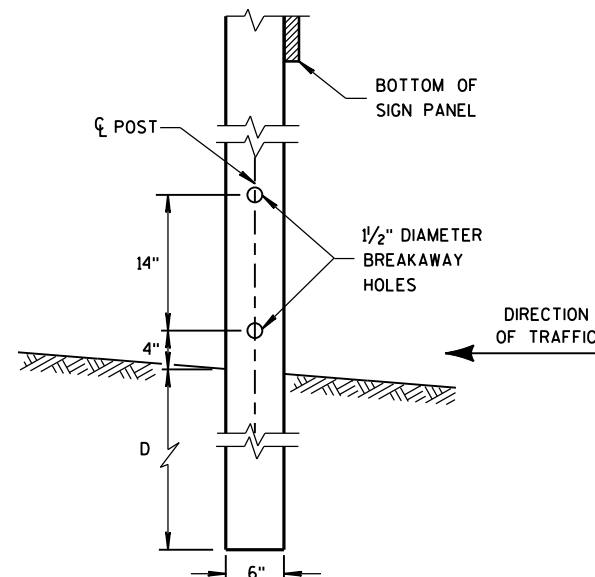


URBAN AREA

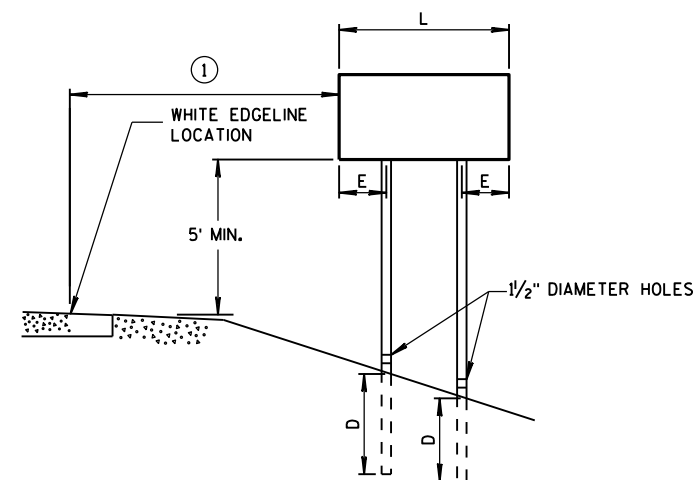
POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

WOOD POST
EMBEDMENT DEPTH

AREA OF SIGN INSTALLATION (SQ. FT.)	D (MIN)
20 OR LESS	4'
GREATER THAN 20	5'



4 "x6 " WOOD POST
MODIFICATION



RURAL AREA

4 " X 6 " WOOD POST

POST SPACING REQUIREMENTS		NUMBER OF WOOD POSTS REQUIRED
L	E	
48" OR LESS AND LESS THAN 20 SQ. FT.	-	1
LESS THAN 60"	12"	2
60" TO 120"	L/5	2
GREATER THAN 120" LESS THAN 168"	12"	3
168" AND GREATER	12"	4

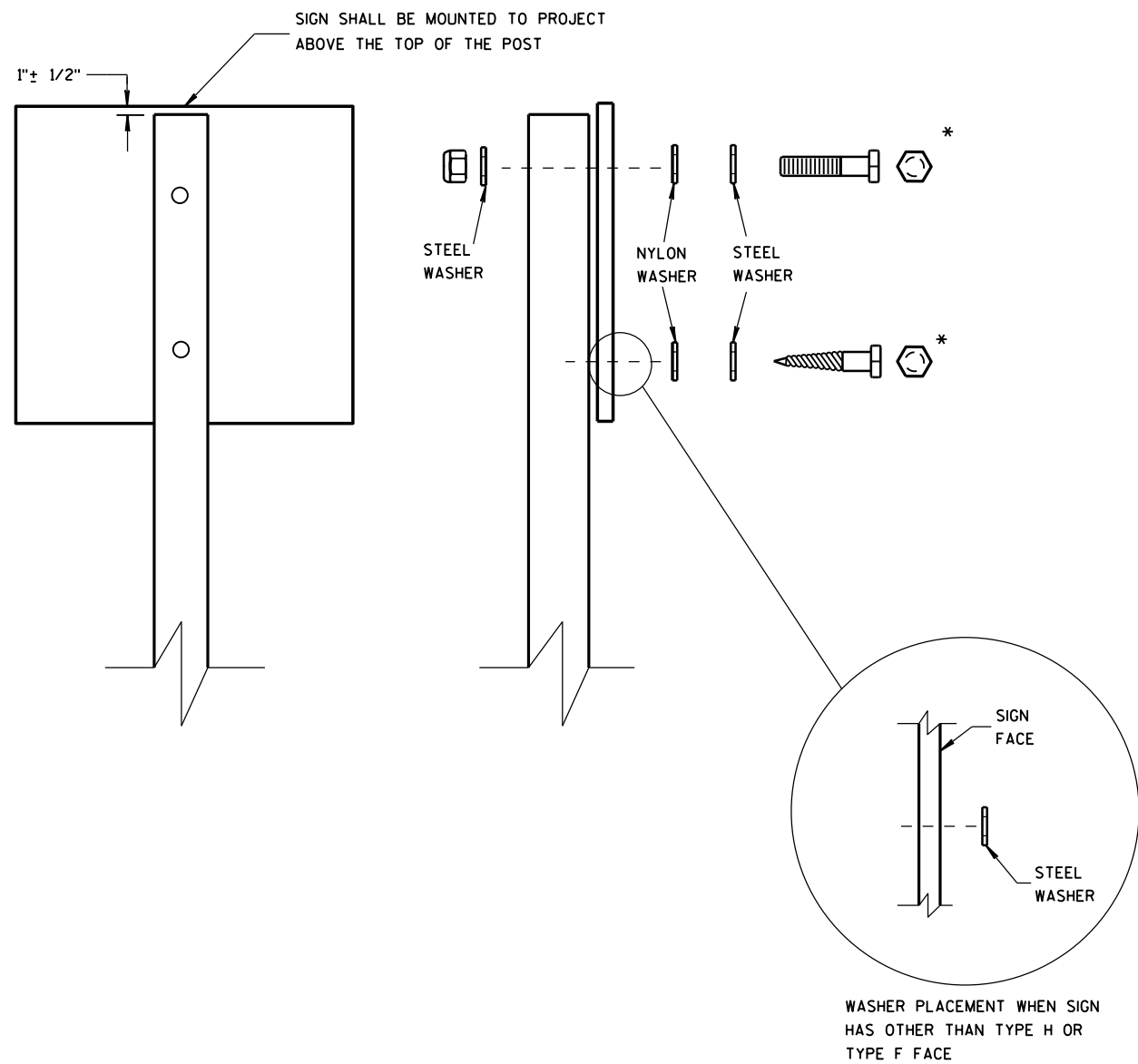
SEE NOTE ③

GENERAL NOTES

- ① 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.
- ② THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.
- ③ FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.

TEMPORARY TRAFFIC CONTROL
FIXED MESSAGE SIGNS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



NUTS, BOLTS AND LAGS USED FOR MOUNTING SIGNS SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

- A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3
- B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

THREADS ON BOLTS AND NUTS SHALL BE MANUFACTURED WITH SUFFICIENT ALLOWANCE FOR THE CADMIUM PLATE OR GALVANIZED COATING TO PERMIT THE NUTS TO RUN FREELY ON THE BOLTS.

- WOOD POSTS (4" x 4" or 4" x 6")
- LAG SCREWS - 3/8" X 3"
 - MACHINE BOLTS - 5/16" X 6-1/2" OR 7" LENGTH W/ NUTS

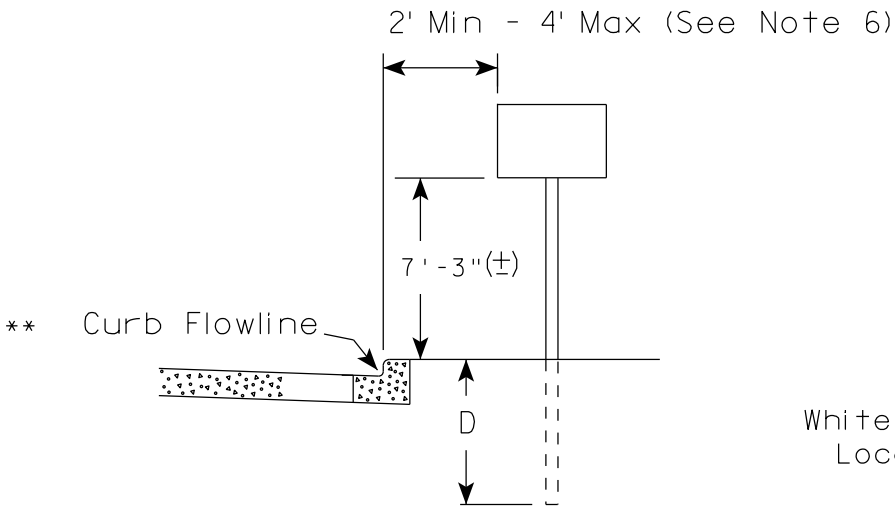
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - 3/8" X 3-1/4" LENGTH W/ NUTS
 - RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

- WASHERS (ALL POSTS) -
- 1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
 - 1-1/4" O.D. X 3/8" I.D. X .080 NYLON FOR ALL TYPE H SIGNS

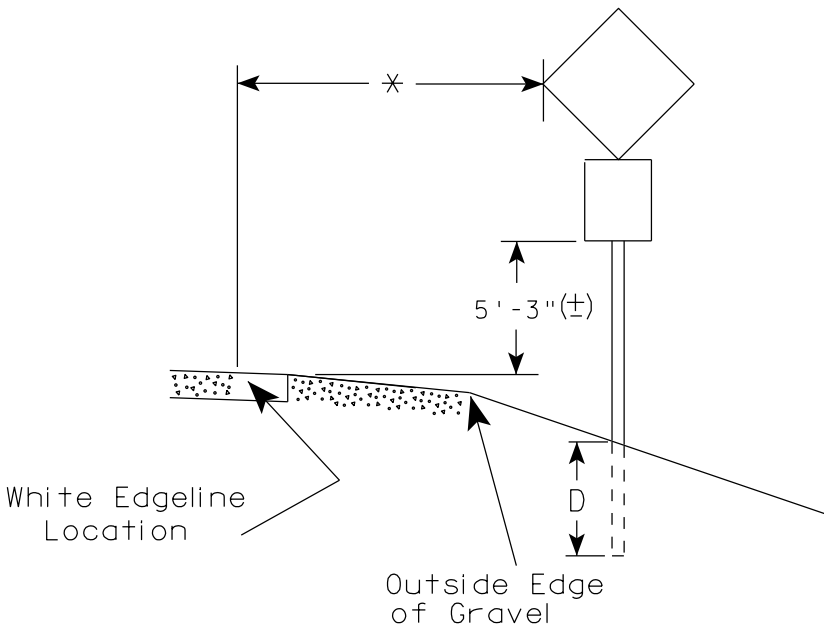
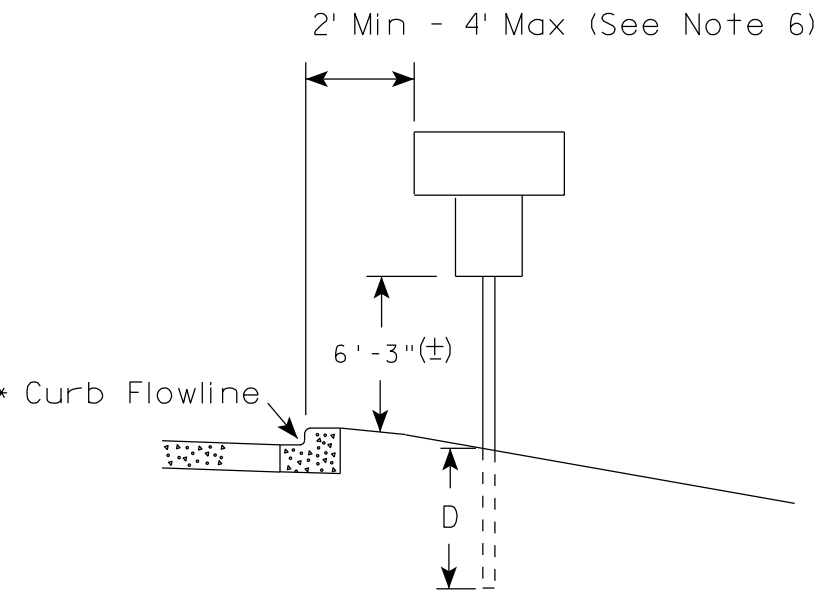
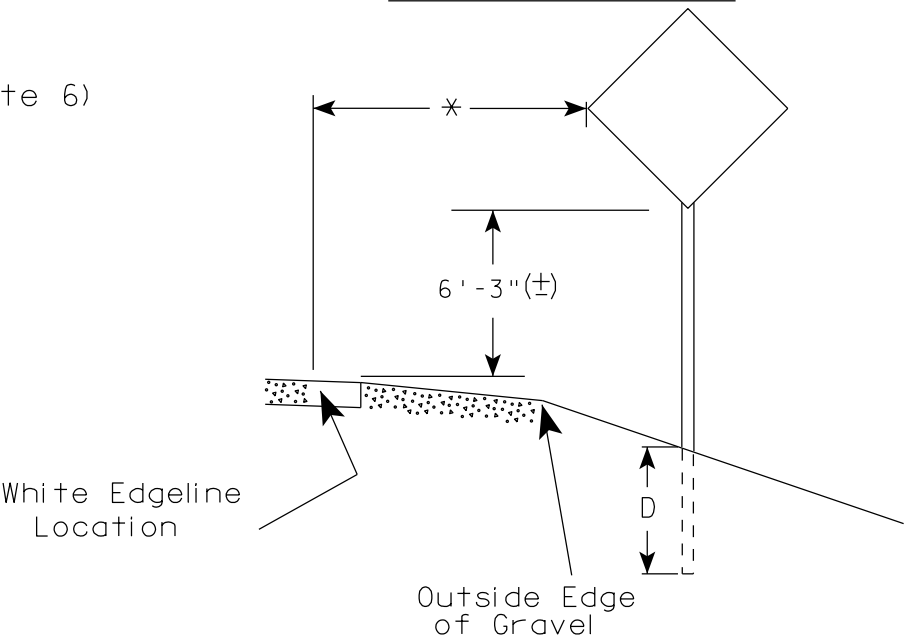
* TWO DIFFERENT FASTENING SYSTEMS ARE SHOWN FOR ILLUSTRATION PURPOSES. ON ANY INDIVIDUAL SIGN, EITHER ONE OR THE OTHER SYSTEM SHALL BE USED. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

ATTACHMENT OF SIGNS TO POSTS		
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION		
APPROVED Feb. 2015	/S/ Travis Feltes	
DATE	STATE TRAFFIC ENGINE 76	SIGN
FHWA		

URBAN AREA



RURAL AREA (See Note 2)



POST EMBEDMENT DEPTH

Area of Sign Installation (Sq.Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

×× The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

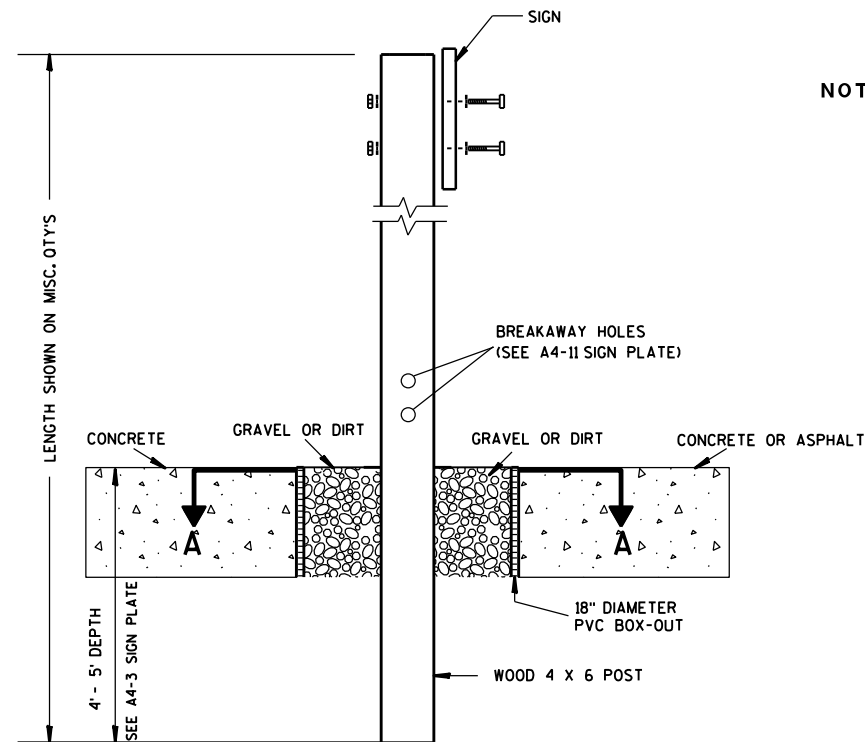
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

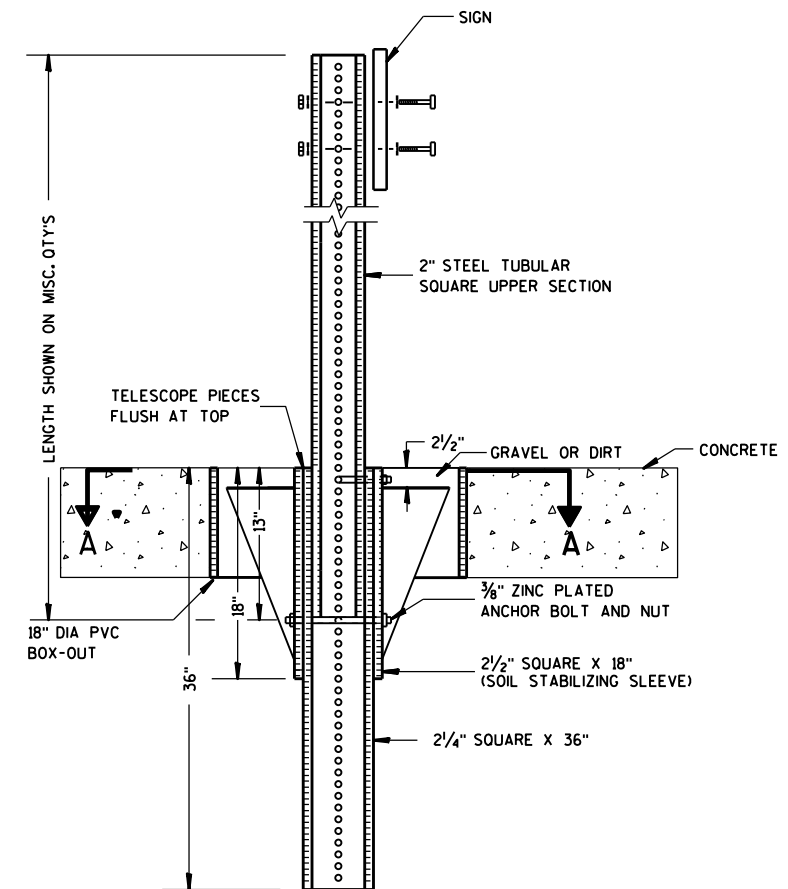
DATE 7/23/15 PLATE NO. A4-3.20



ELEVATION VIEW

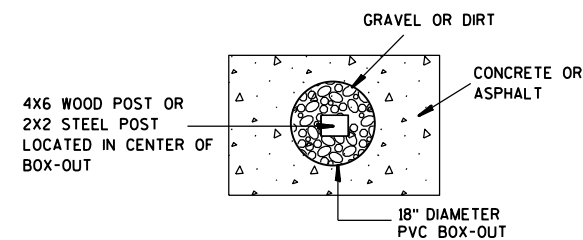
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- NOTES: 1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST
BOX-OUTS
A4-3B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/27/14 PLAT 78 A4-3B.1

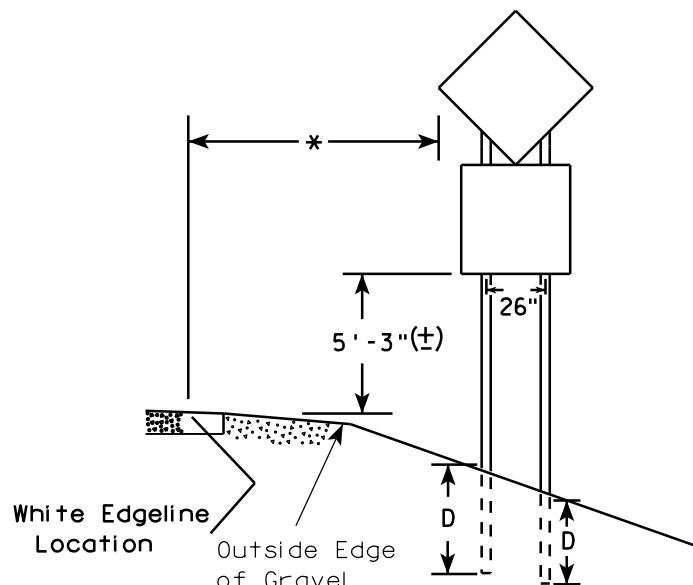
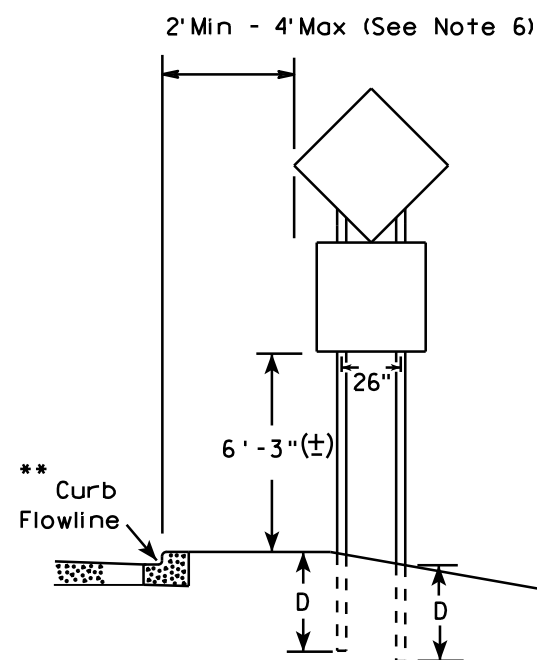
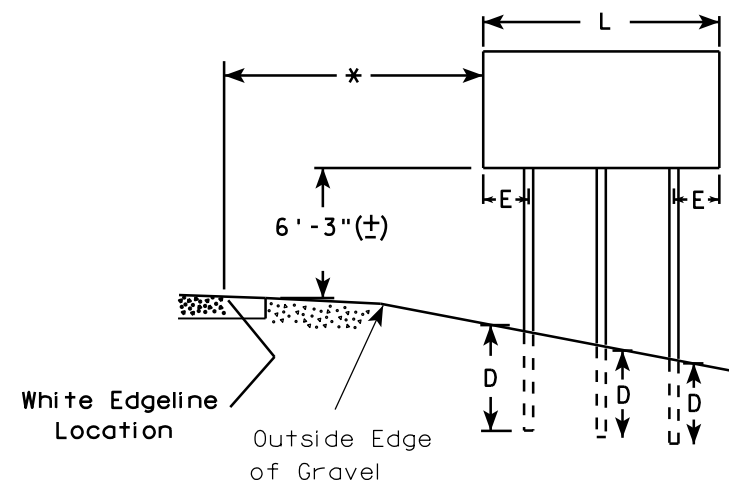
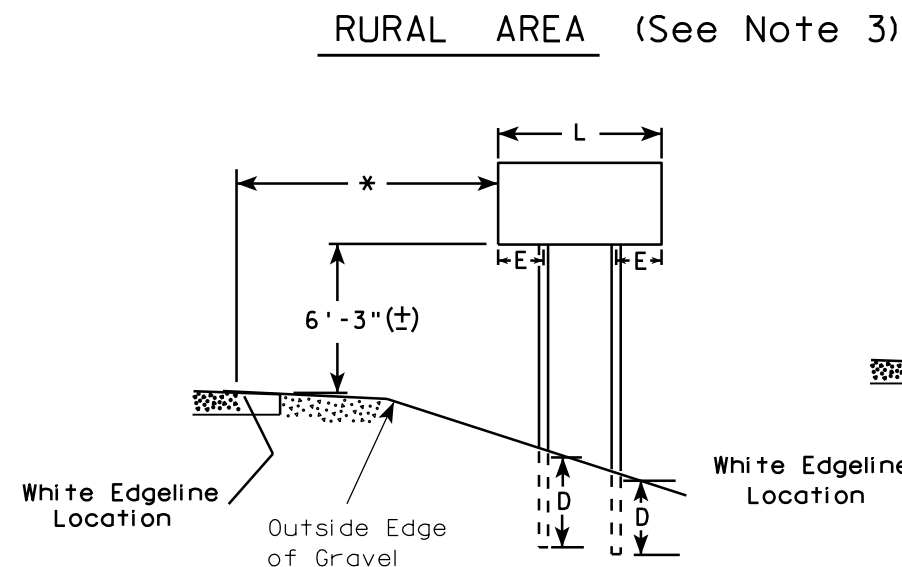
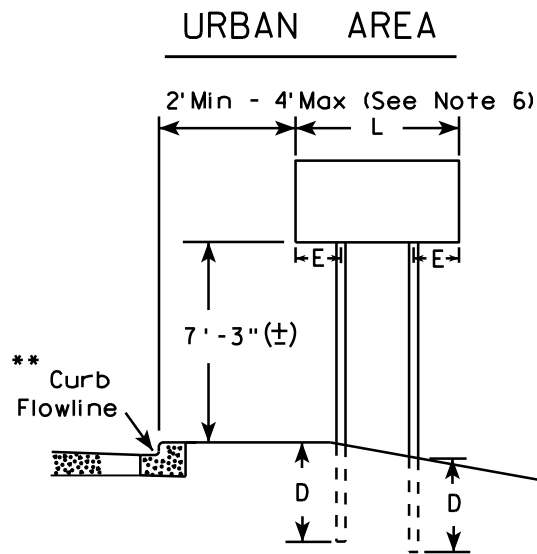
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



48" DIAMOND WARNING SIGN

48" DIAMOND WARNING SIGN

- GENERAL NOTES**
1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
 2. See tables below for required number of posts.
 3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
 4. The (±) tolerance for mounting height is 3 inches.
 5. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
 6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
 7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
 8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

*** See A4-3 sign plate for signs 4' or less in width and less than 20 S.F. in area.

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 120"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 120" less than 168"	12"

SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED)	
L	E
168" and greater	12"

POST EMBEDMENT DEPTH

Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

TYPICAL INSTALLATION
OF TYPE II SIGNS
ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 7/23/15 PLATE NO. 14

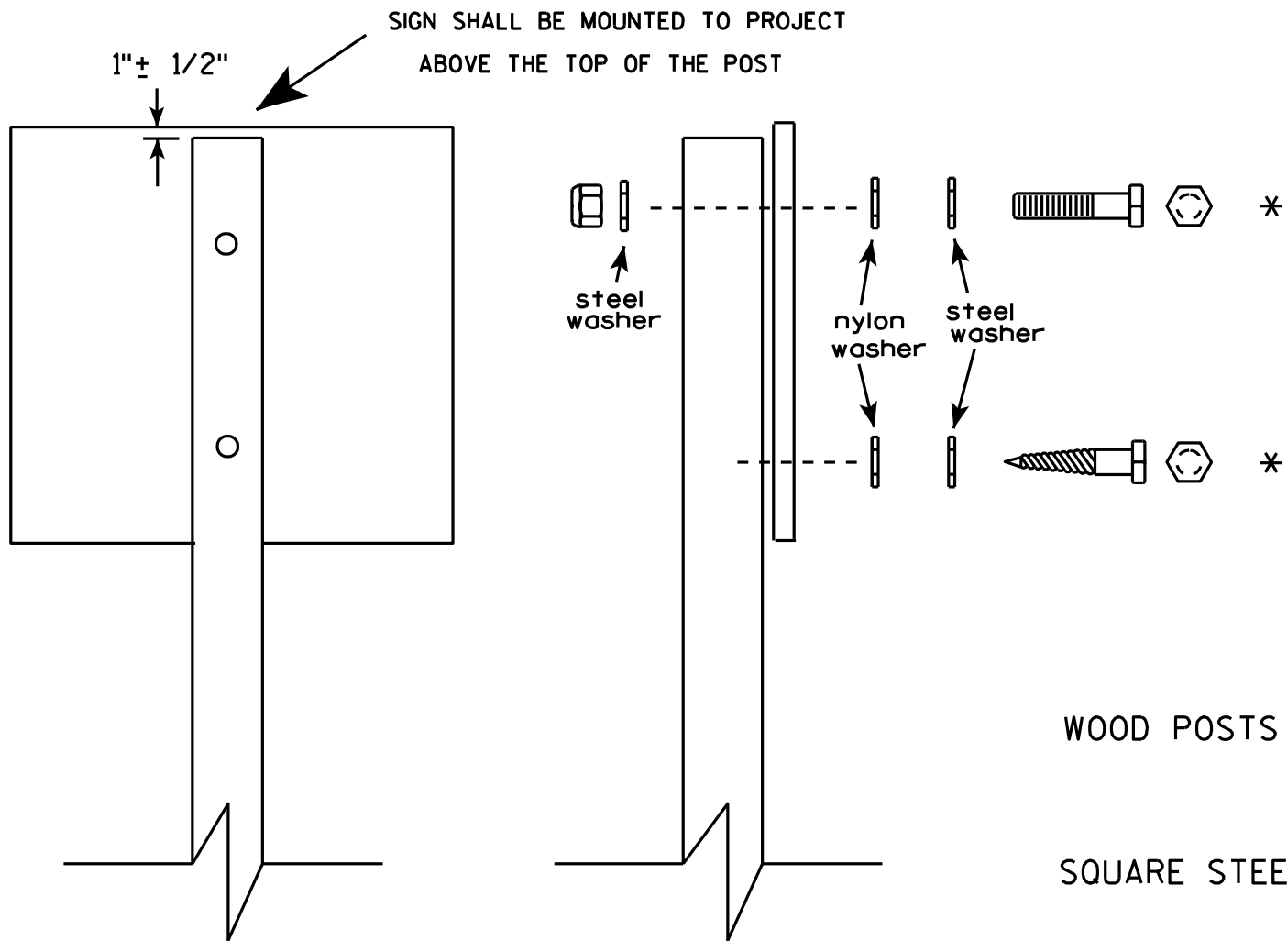
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

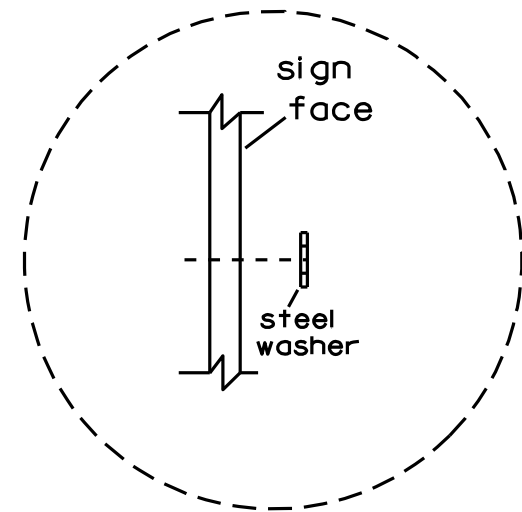


Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

- a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
- b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

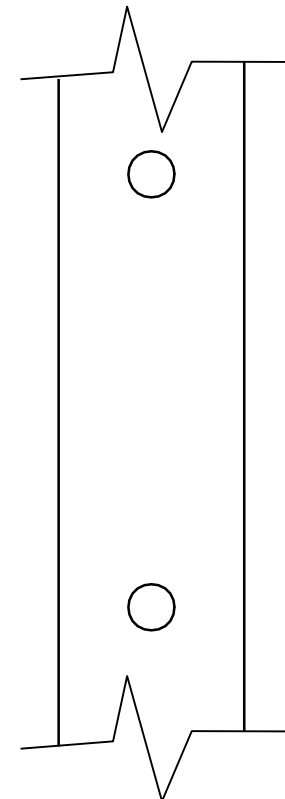
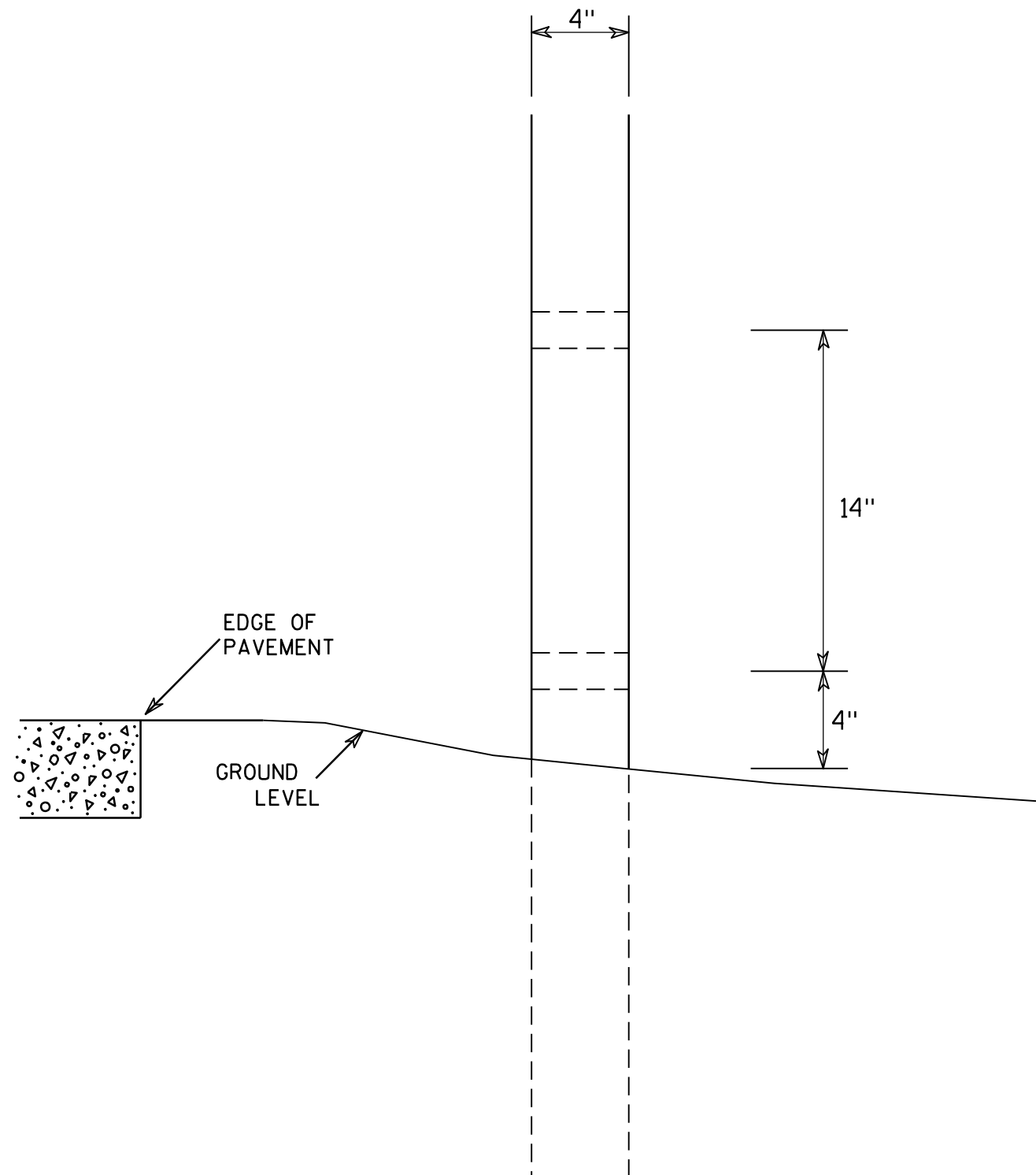
- WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3"
MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts
- SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts
RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
- WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON for all Type H signs.



Washer Placement when Sign Has Other Than Type H or Type F Face

* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 3/23/10	PLATE NO. A4-8.7



SIDE VIEW

GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1½" diameter holes drilled perpendicular to the roadway centerline.

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

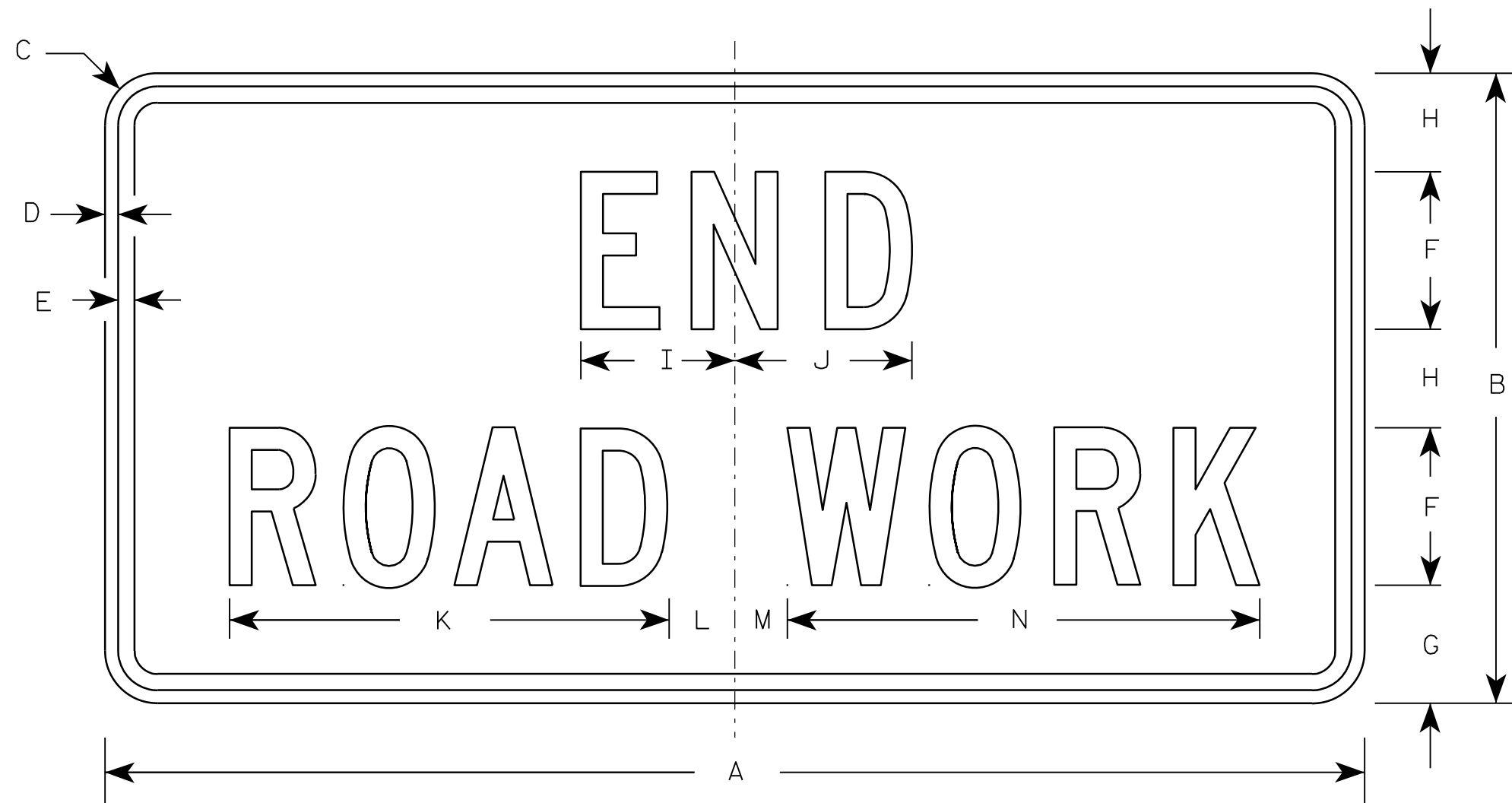
HWY:

COUNTY:

SHEET NO: 81

E

7



G20-2A

Metric equivalent
for this sign is:

SIZE	
1	900 mm X 450 mm
2	1200 mm X 600 mm
3	1200 mm X 600 mm
4	1200 mm X 600 mm
5	1200 mm X 600 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area sq. m.
1	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
4	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
5	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72

NOTES

- Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - Orange
Message - Black
- Message Series - C
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

7

PROJECT NO:

HWY:

COUNTY:

SHEET NO: 82

E

NOTES

1. Sign is Type II - Type F Reflective - reference
WIS DOT Standard Specification for HIGHWAY
and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Message Series - D
4. Substitute appropriate numeral and adjust
spacing to achieve proper balance.



G20-55

7

Metric equivalent
for this sign is:

SIZE	
1	
2	
3	
4	2550 mm X 900 mm
5	

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Areq sq. ft.	Areq m ²
1																												
2																												
3																												
4	84	24	1 1/8	3/8	1/2	6	4 1/2	3	21 1/2	4	2	23 1/2	4 1/8	24 5/8	28 3/8												25.5	2.30
5																												

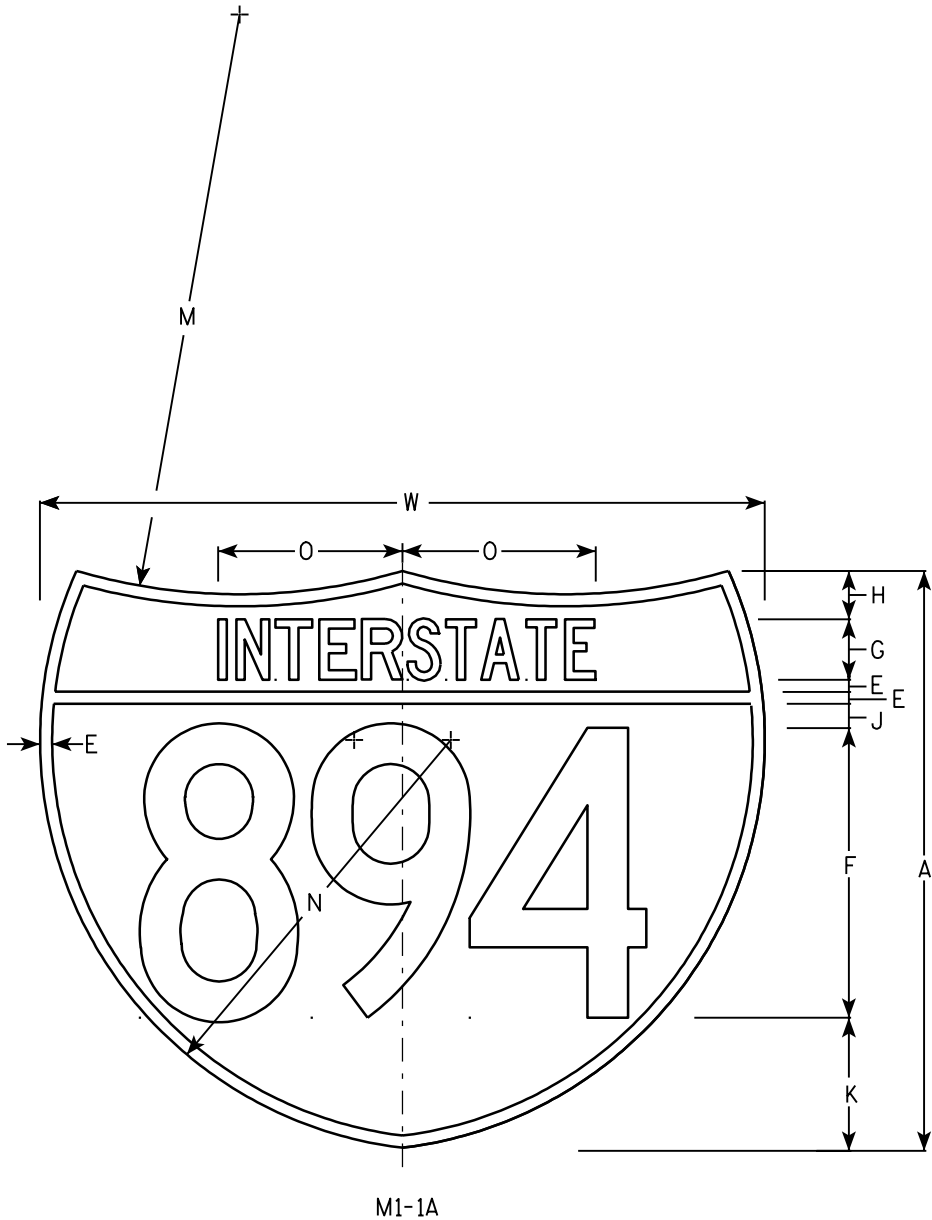
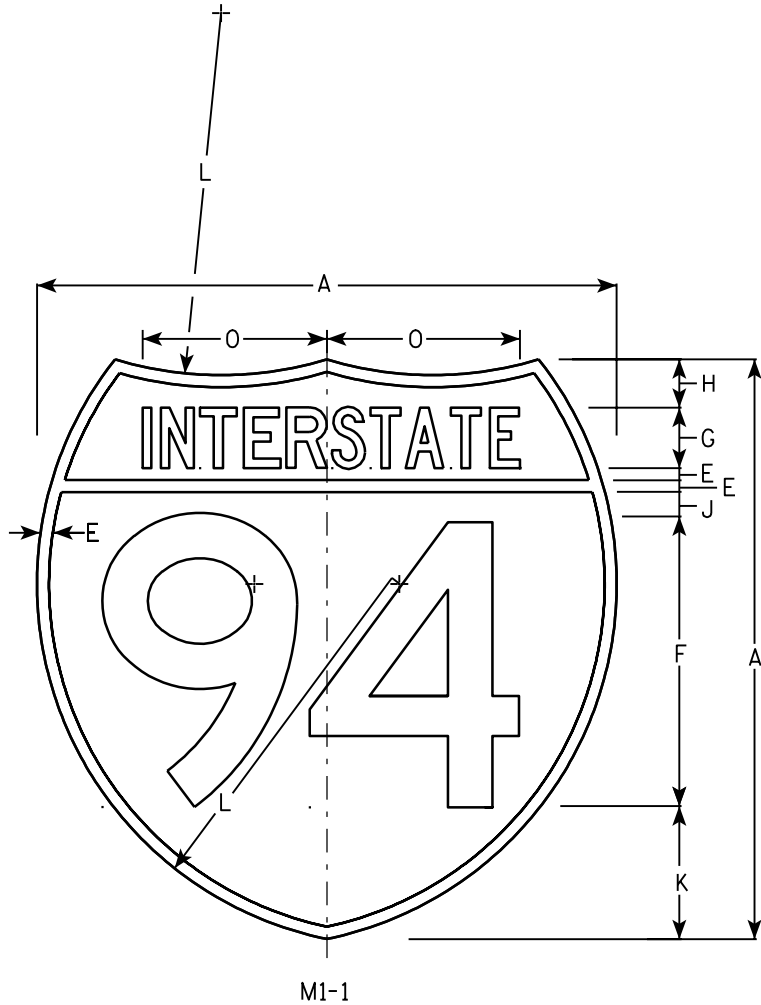
STANDARD SIGN
G20-55

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 9/30/09 PLATE NO. G20-55.2

PROJECT NO: HWY: COUNTY: SHEET NO: 83 E



NOTES

- 1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - Top Red - Bottom Blue (See Note 6)
Message - White - See Note 6
- 3. Message Series - See note 5
- 4. Substitute appropriate numerals & adjust spacing as per plate A10-1.
- 5. M1-1 - Numerals - D
Interstate - C
M1-1A - All copy - C
- 6. Permanent Signs
Message - Type H Reflective
Detour or other temporary signs
Background - Reflective
Message - Reflective

Metric equivalent for these signs are:

SIZE	M1 - 1	SIZE	M1 - 1A
1			
2	600 mm X 600 mm	2	600 mm X 750 mm
3	900 mm X 900 mm	3	900 mm X 1125 mm
4	900 mm X 900 mm	4	900 mm X 1125 mm
5	900 mm X 900 mm	5	900 mm X 1125 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Area sq. ft.	Area sq. ft.	Area m ²	Area m ²
1																													
2	24				1/2	12	2 1/2	2		1	5 1/2	15	24	17	7 7/8								30			3.13	3.91	.36	.46
3	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05
4	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05
5	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05

PROJECT NO:

HWY:

COUNTY:

SHEET NO: 84

E

INTERSTATE ROUTE MARKER
M1-1 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 08/23/05 PLATE NO. M1-1.8

NOTES

1. Sign is Type II - Type H except as Shown
2. Color:

Background - See Note 5

Message - See note 5
3. Message Series - B
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M4-1

Background - White

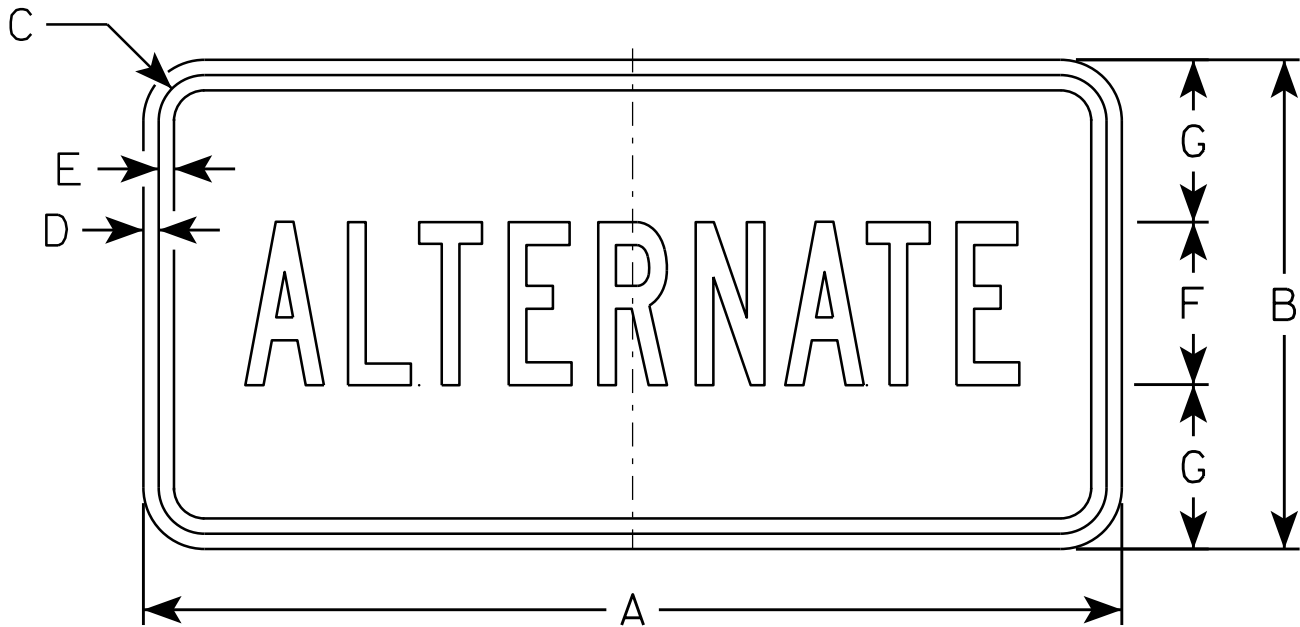
Message - Black
- MB4-1

Background - Blue

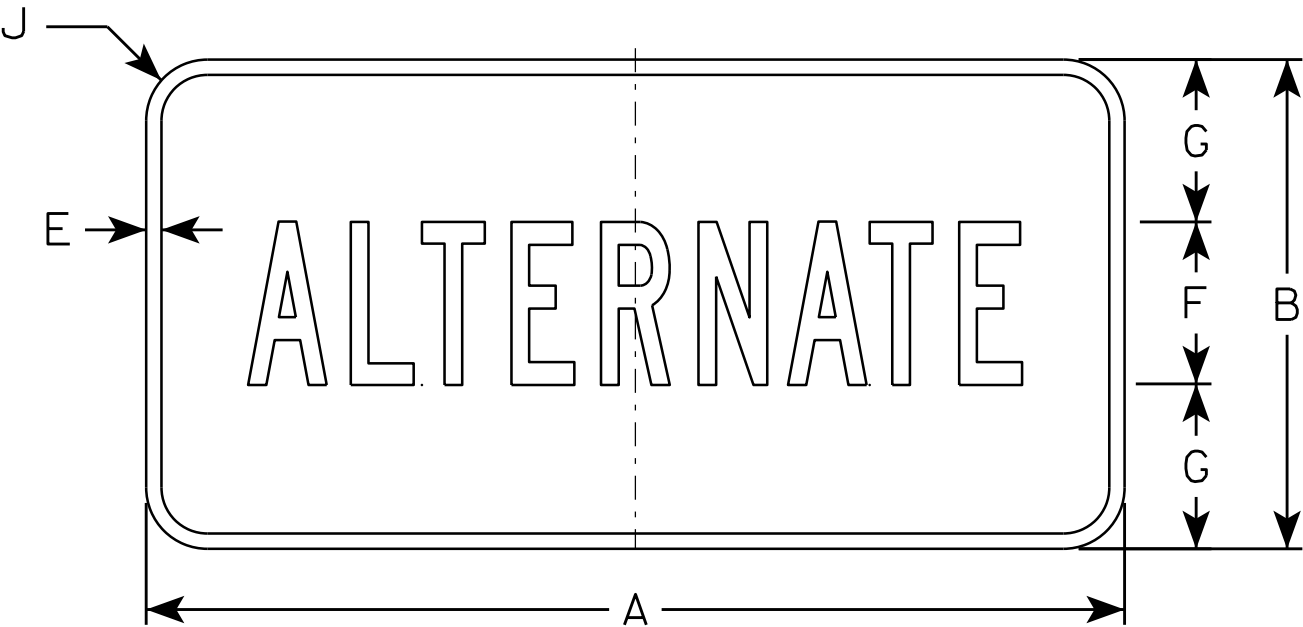
Message - White
- M04-1

Background - Orange - Type F

Message - Black



M4 - 1
M04 - 1



MB4 - 1

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	4	4	9 3/4	9 1/2	1 1/2																	2.00
3	36	18	1 1/8	3/8	1/2	7	5 1/2	16 3/8	16 1/2	1 1/2																	4.5
4	36	18	1 1/8	3/8	1/2	7	5 1/2	16 3/8	16 1/2	1 1/2																	4.5
5	36	18	1 1/8	3/8	1/2	7	5 1/2	16 3/8	16 1/2	1 1/2																	4.5

STANDARD SIGN

M4 - 1

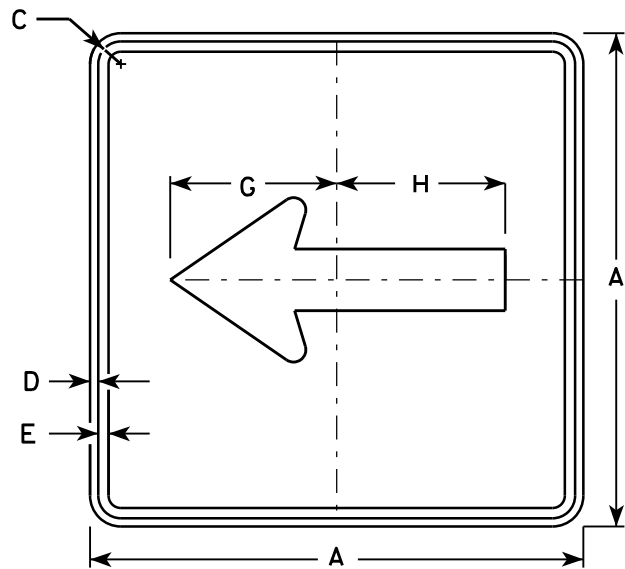
WISCONSIN DEPT OF TRANSPORTATION

APPROVED

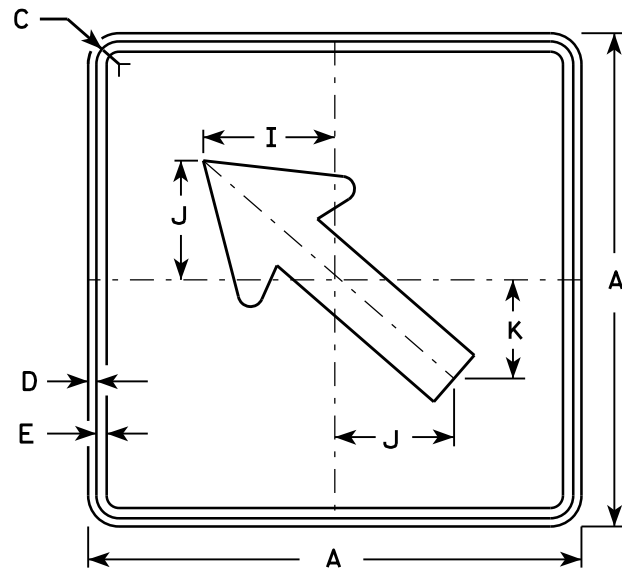
Matthew R. Rauch

for State Traffic Engineer

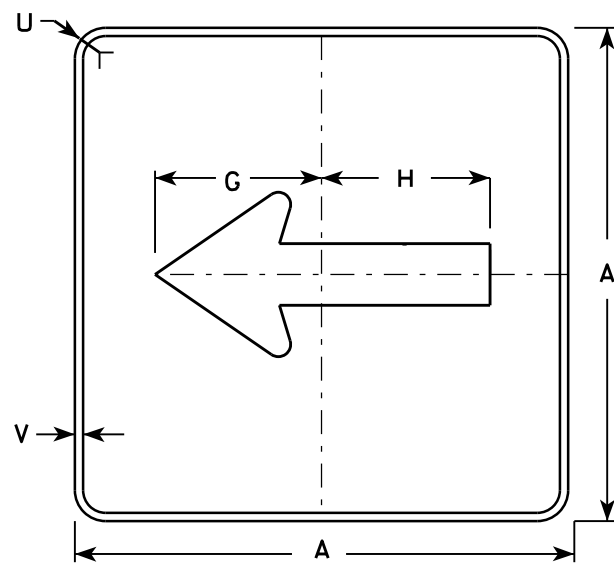
DATE 6/30/14PLATE 85'14-1.8



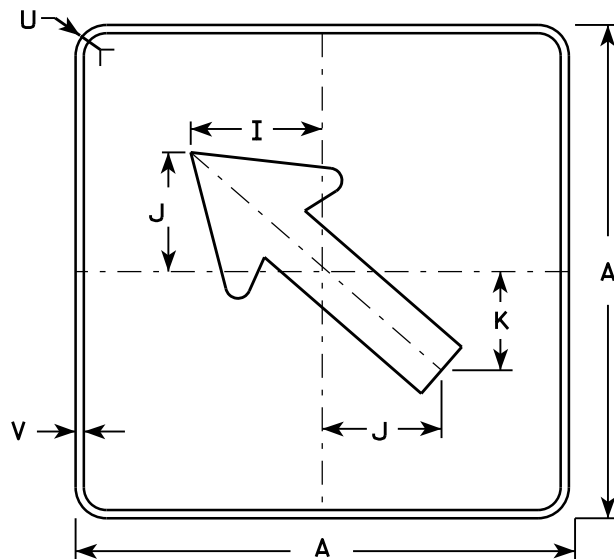
M6 - 1
MK6 - 1
MM6 - 1
MN6 - 1
M06 - 1
MP6 - 1
MR6 - 1



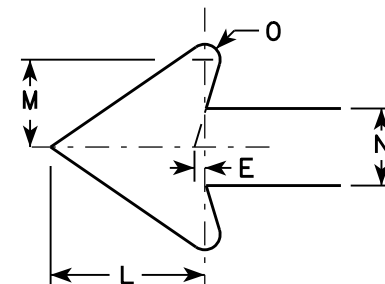
M6 - 2
MK6 - 2
MM6 - 2
MN6 - 2
M06 - 2
MP6 - 2
MR6 - 2



MB6 - 1



MB6 - 2



NOTES

- Signs are Type II - Type H except as Shown
- Color:
Background - See note 4
Message - See note 4
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- M6-1 and M6-2 Background - White
Message - Black
MB6-1 and MB6-2 Background - Blue
Message - White
MG6-1 and MG6-2 Background - Green
Message - White
MK6-1 and MK6-2 Background - Green
Message - White
MM6-1 and MM6-2 Background - White
Message - Green
MN6-1 and MN6-2 Background - Brown
Message - White
M06-1 and M06-2 Background - Orange - Type F Reflective
Message - Black
MP6-1 and MP6-2 Background - White
Message - Blue
MR6-1 and MR6-2 Background - Brown
Message - Yellow

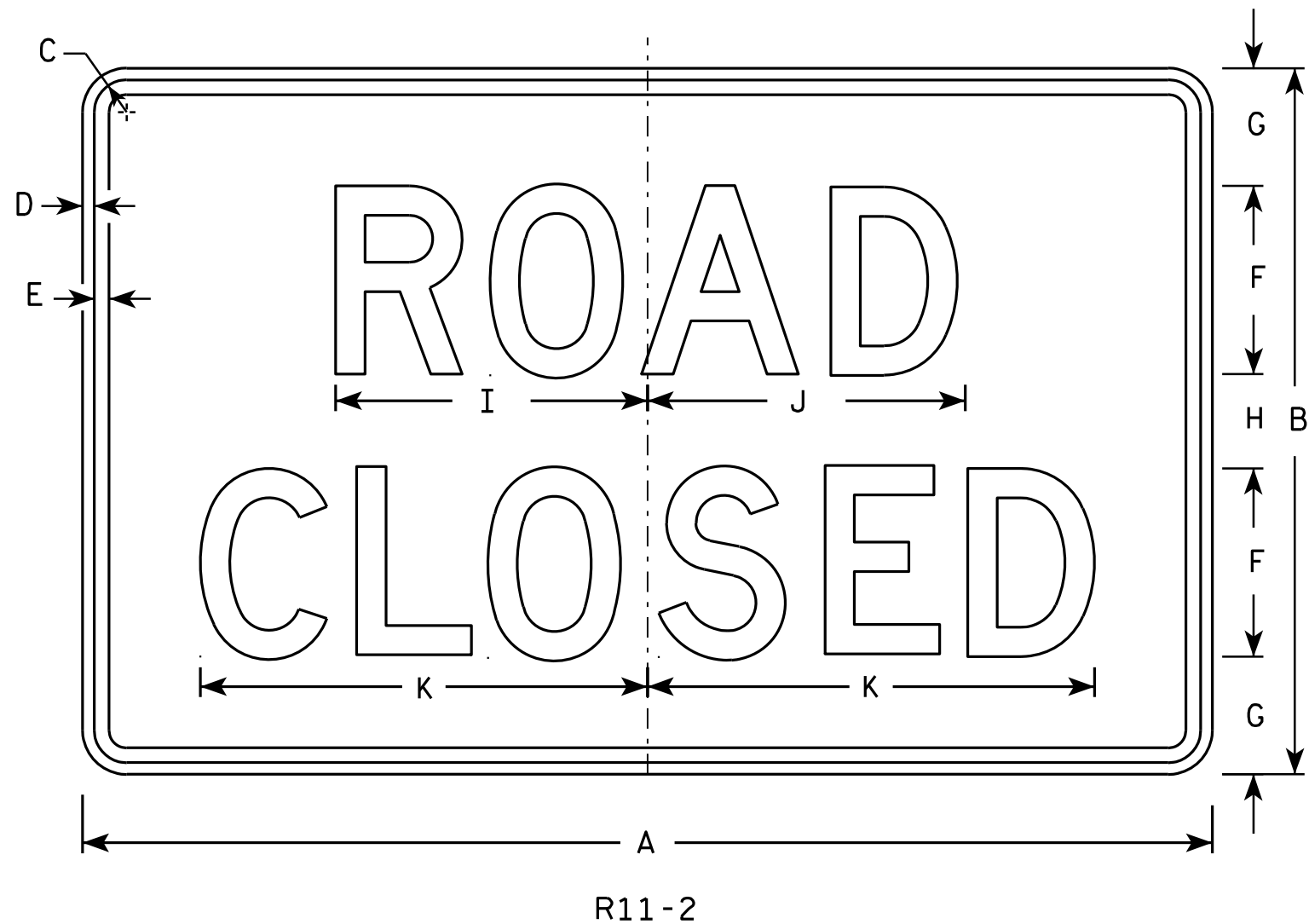
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25

STANDARD SIGN
M6 - 1 & M6 - 2
SERIES

WISCONSIN DEPT OF TRANSPORTATION

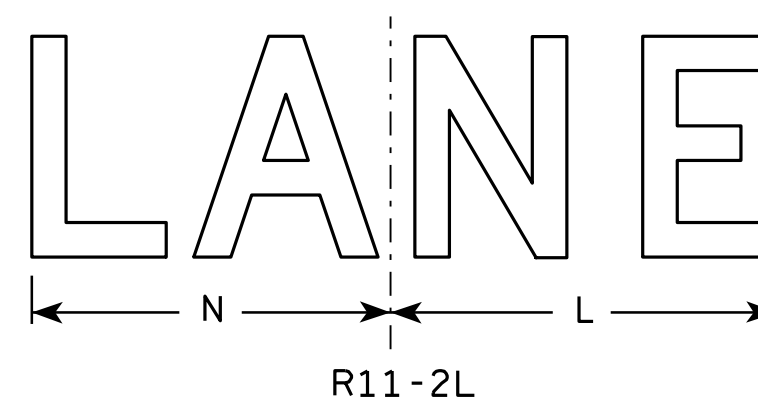
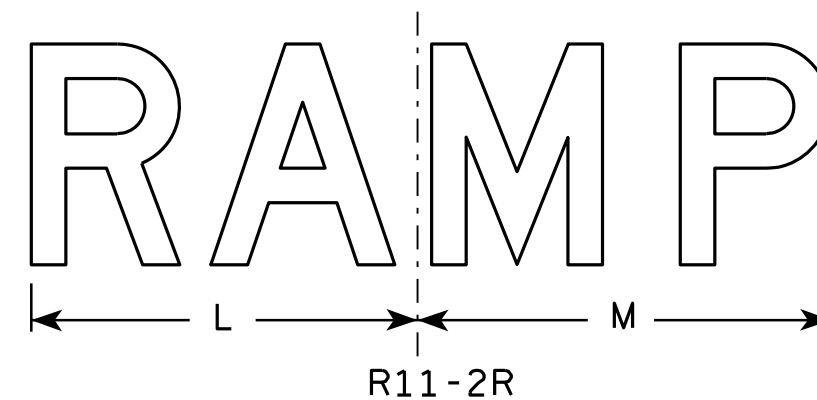
APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 7/03/14 PLAT 86 M6-1.14



NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Modify the message as required.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0
2M	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0
3	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0
4	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0
5	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0

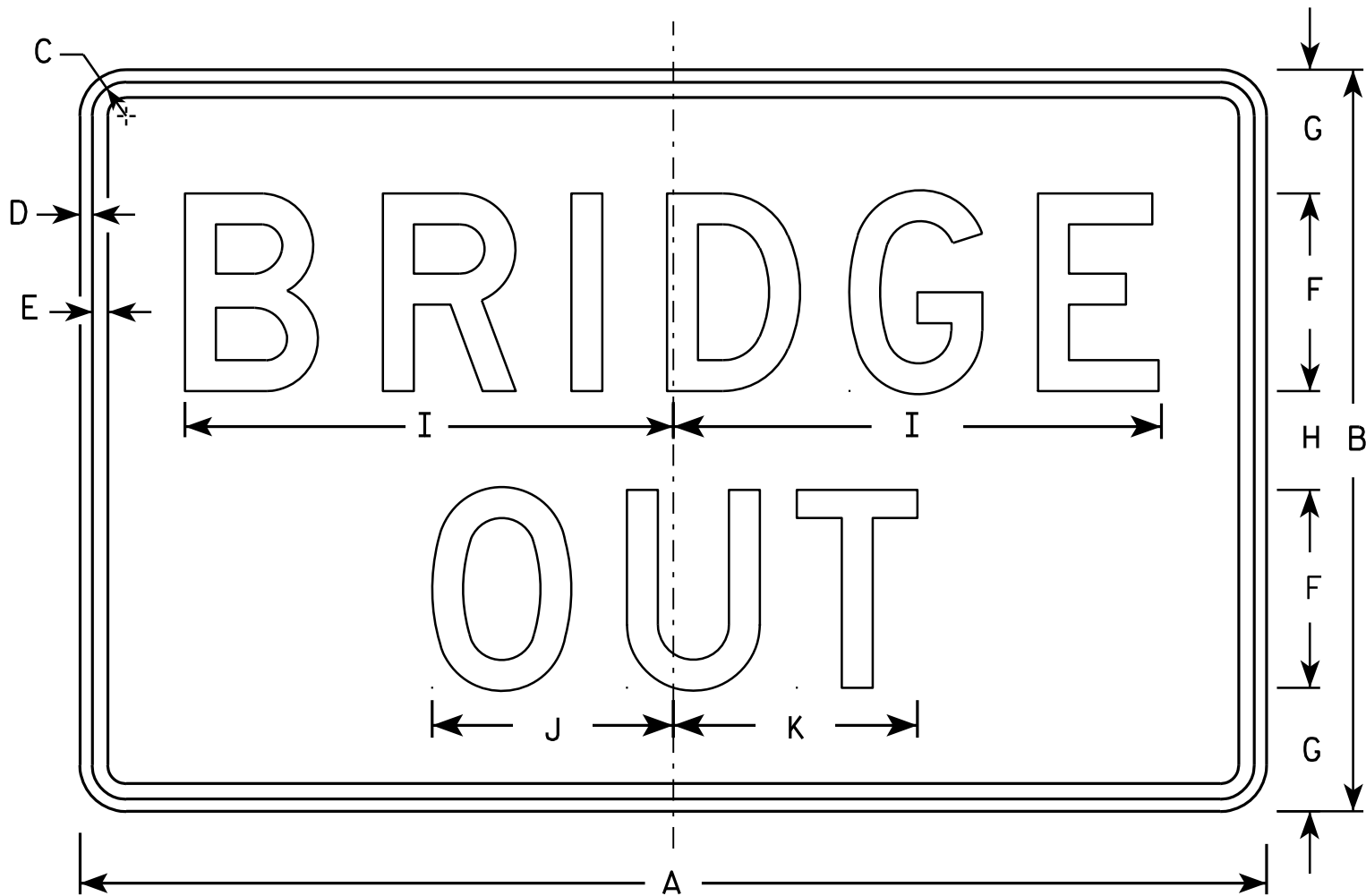
STANDARD SIGN R11-2

WISCONSIN DEPT OF TRANSPORTATION
APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 4/1/11 PLATE NO. R11-2.10

PROJECT NO: HWY: COUNTY: SHEET NO: 87 E

NOTES

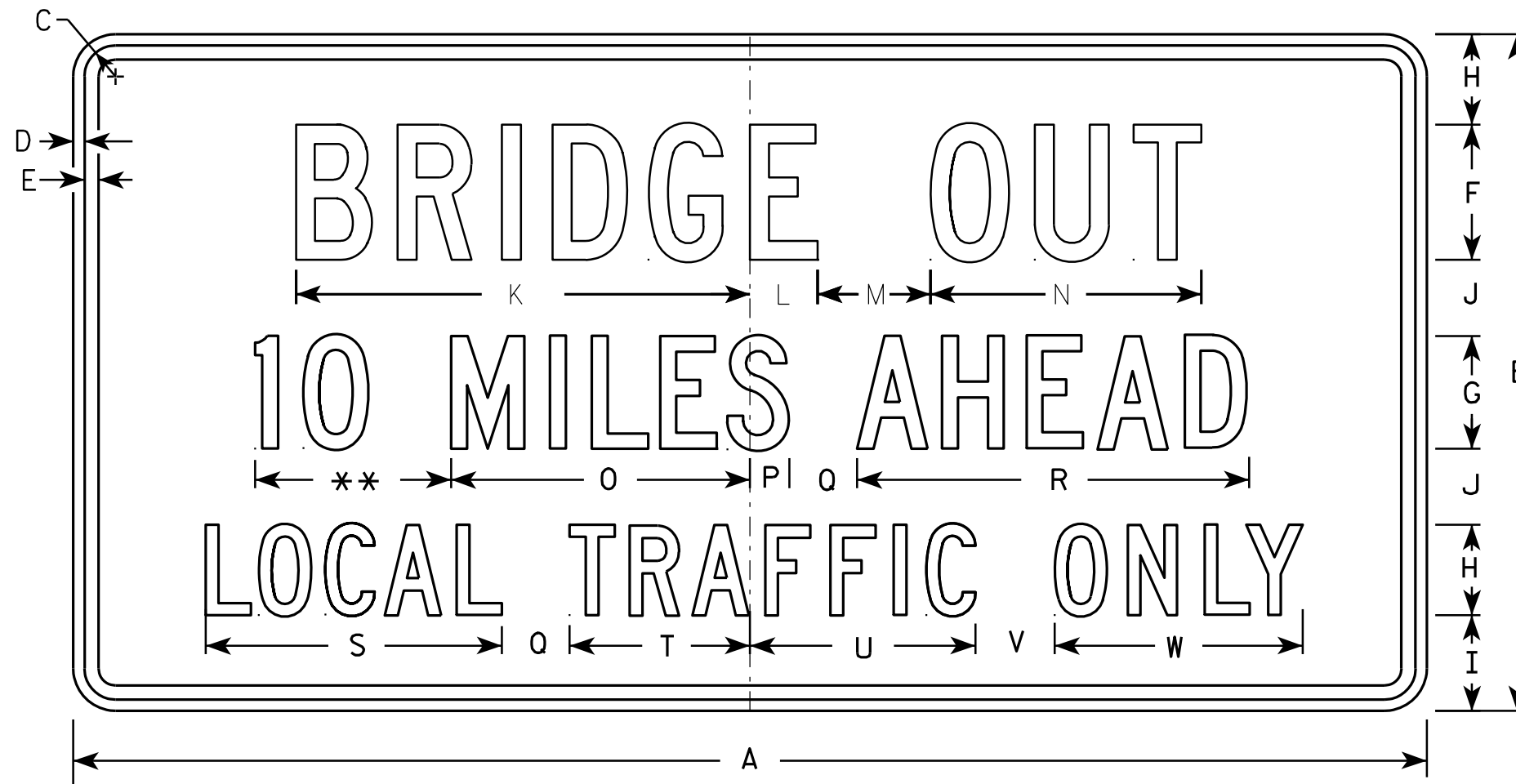
- 1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
 - Background - White
 - Message - Black
- 3. Message Series - D
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



R11-2B

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	19 3⁄4	9 3⁄4	9 7⁄8																10.0
2M	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	19 3⁄4	9 3⁄4	9 7⁄8																10.0
3	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	19 3⁄4	9 3⁄4	9 7⁄8																10.0
4	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	19 3⁄4	9 3⁄4	9 7⁄8																10.0
5	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	19 3⁄4	9 3⁄4	9 7⁄8																10.0

STANDARD SIGN	
R11-2B	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 4/1/11	PLATE NO. R11-2B.2



R11-3B

NOTES

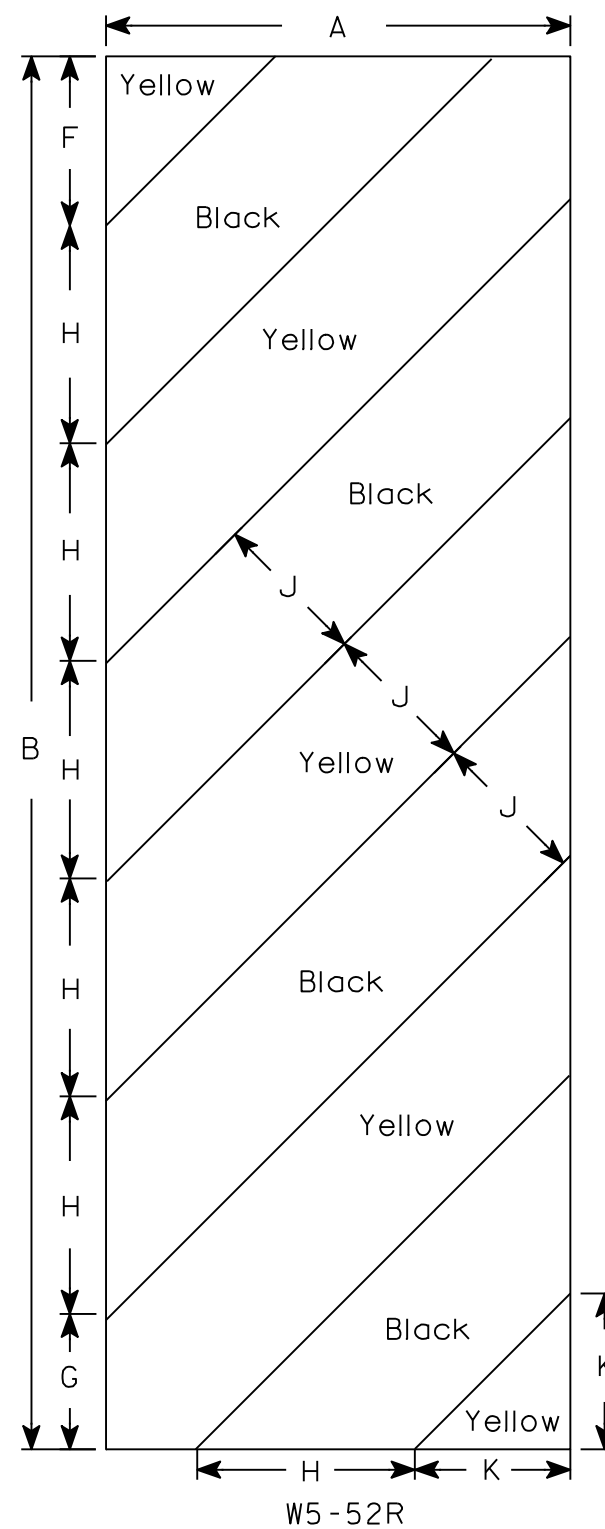
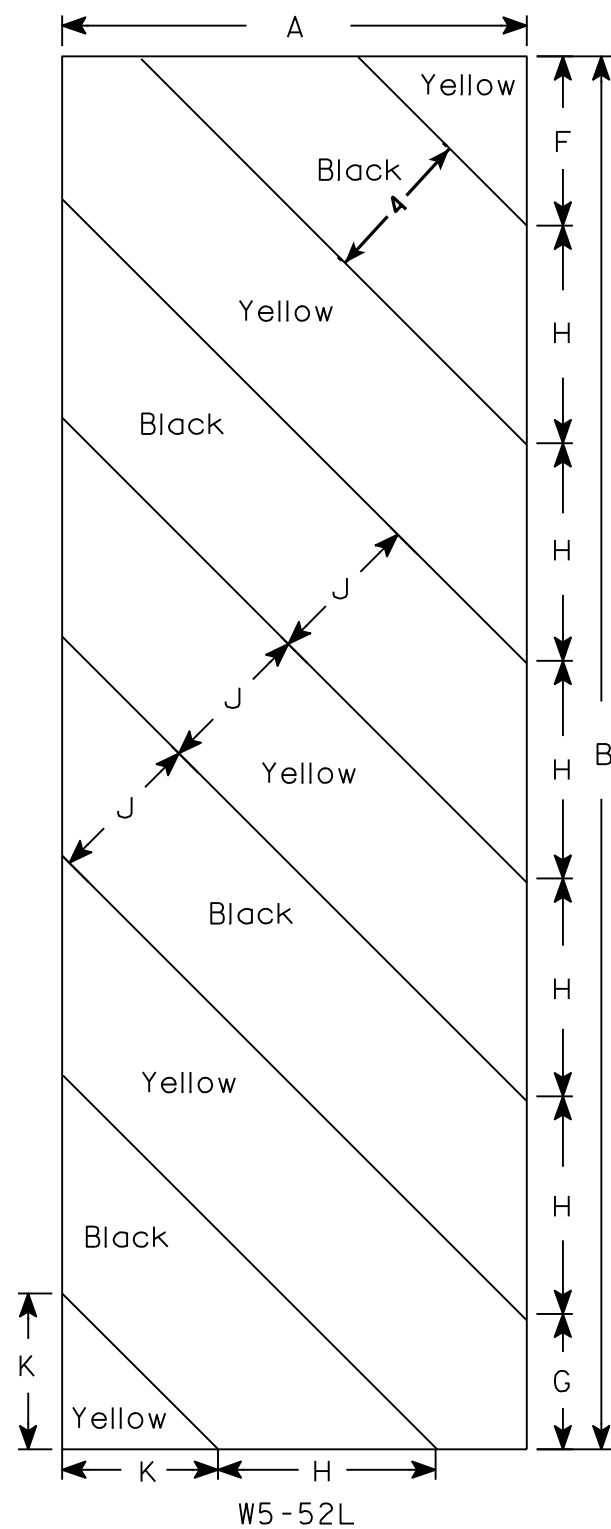
1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

** See Note 5

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 3⁄8	1⁄2	5⁄8	4	3	2 1⁄2	2	2	13 1⁄4	2 1⁄4	3	8	8	1 1⁄2	2	10 3⁄4	8 3⁄8	4 3⁄4	6 1⁄2	2	6 3⁄4				4.5
2S	60	30	1 3⁄8	1⁄2	5⁄8	6	5	4	4 1⁄4	3 3⁄8	20 1⁄8	3	5	12	13 1⁄4	1 3⁄4	3	17 3⁄8	13 1⁄8	8	10	3 1⁄2	11				12.5
2M	60	30	1 3⁄8	1⁄2	5⁄8	6	5	4	4 1⁄4	3 3⁄8	20 1⁄8	3	5	12	13 1⁄4	1 3⁄4	3	17 3⁄8	13 1⁄8	8	10	3 1⁄2	11				12.5
3																											
4																											
5																											

STANDARD SIGN R11-3B	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 4/1/11	PLATE NO. R11-3B.2

PROJECT NO:	HWY:	COUNTY:	SHEET NO: 89	E
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NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
 - Background - Yellow
 - Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Alternate colors of stripes as shown.

[illegible]

STANDARD SIGN
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer
DATE 5/29/12 PLATE NO. W5-52.9

PROJECT NO:

HWY:

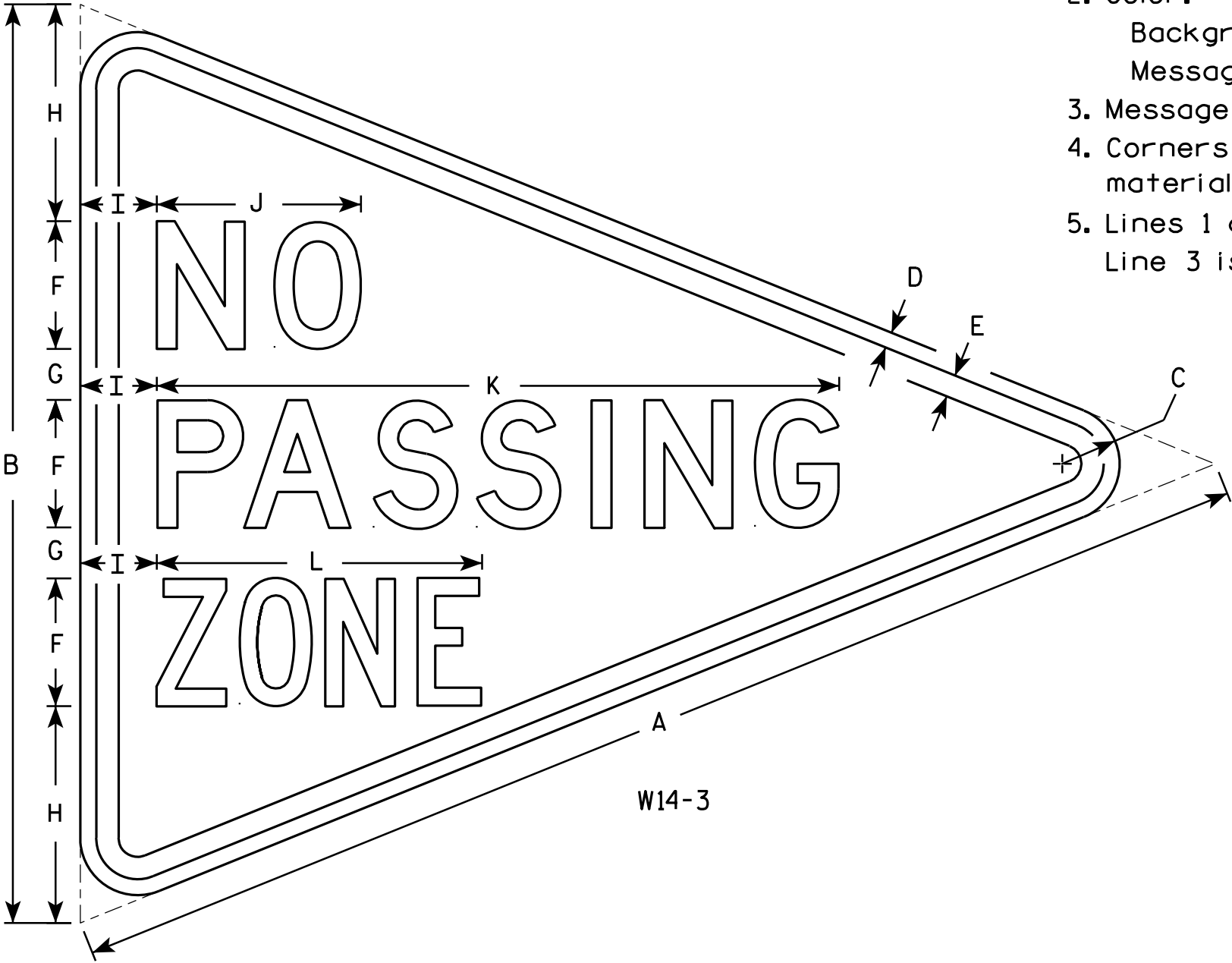
COUNTY:

SHEET NO: 90

E

NOTES

- 1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - Yellow
Message - Black
- 3. Message Series - See note 5
- 4. Corners and borders shall be rounded on all base materials for this sign.
- 5. Lines 1 and 2 are Series D.
Line 3 is series C.



W14-3

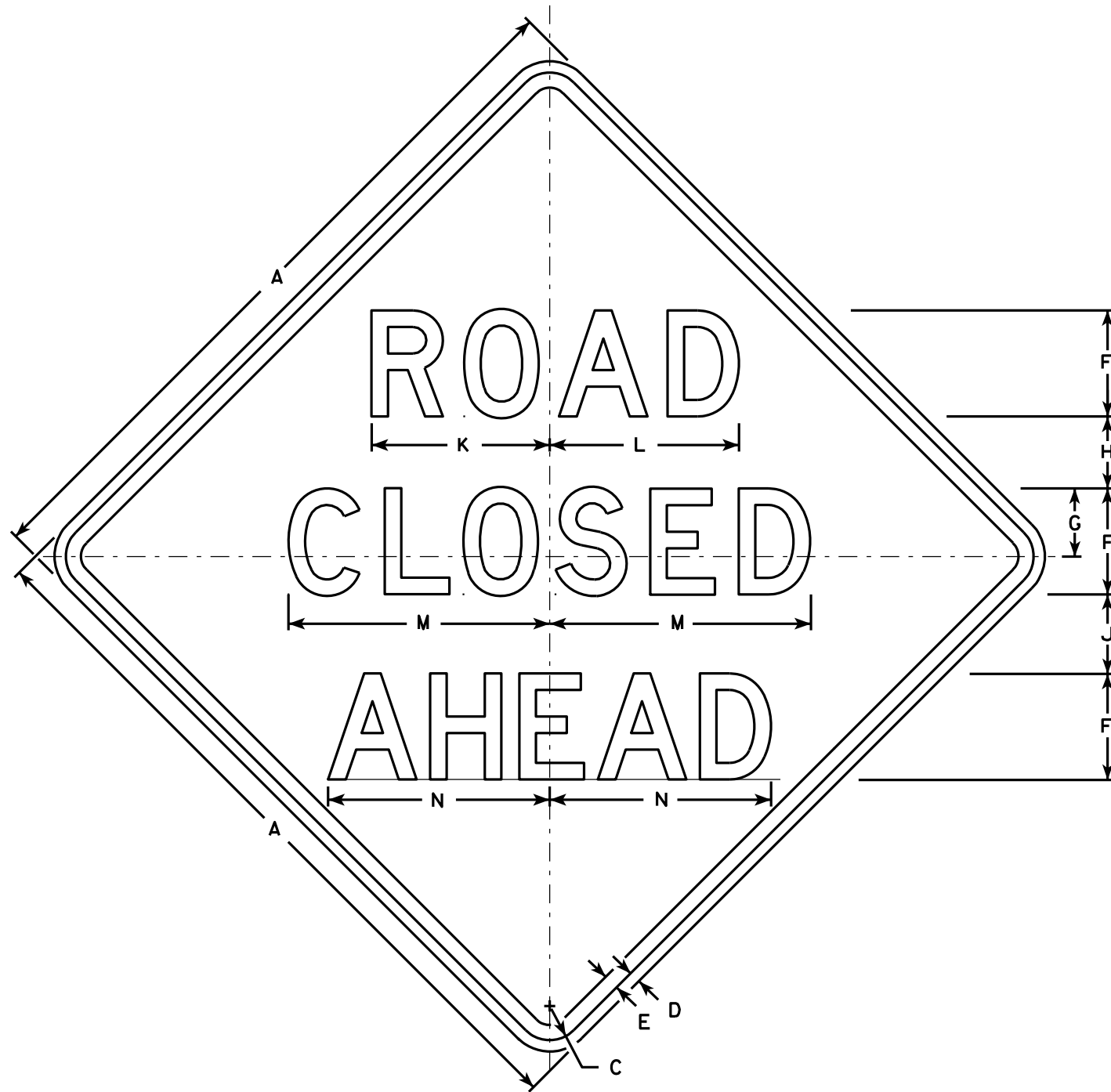
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	36	2 1/4	5/8	7/8	5	2	8 1/2	3	8	26 3/4	12 3/4															6.0
2M	48	36	2 1/4	5/8	7/8	5	2	8 1/2	3	8	26 3/4	12 3/4															6.0
3	64	48	3	3/4	1 1/4	6	3	12	4	10 3/4	33 5/8	16 1/2															10.7
4																											
5																											

STANDARD SIGN
W14-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 6/7/10 PLATE NO. W14-3.9



W20-3A

500 FT

W20-3D

1000 FT

W20-3C

1500 FT

W20-3B

1/2 MILE

W20-3G

1 MILE

W20-3F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Message Series - see note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1 and 2 are Series D.
Line 3 is Series D for AHEAD and Series C for all other distances.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	8 3/8	8 7/8	12 1/2	11	9	6	10 1/8	2 1/2	1 7/8	5 5/8	8	1 3/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
2M	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
3	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
4	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
5	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0

STANDARD SIGN
W20-3A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-3.7

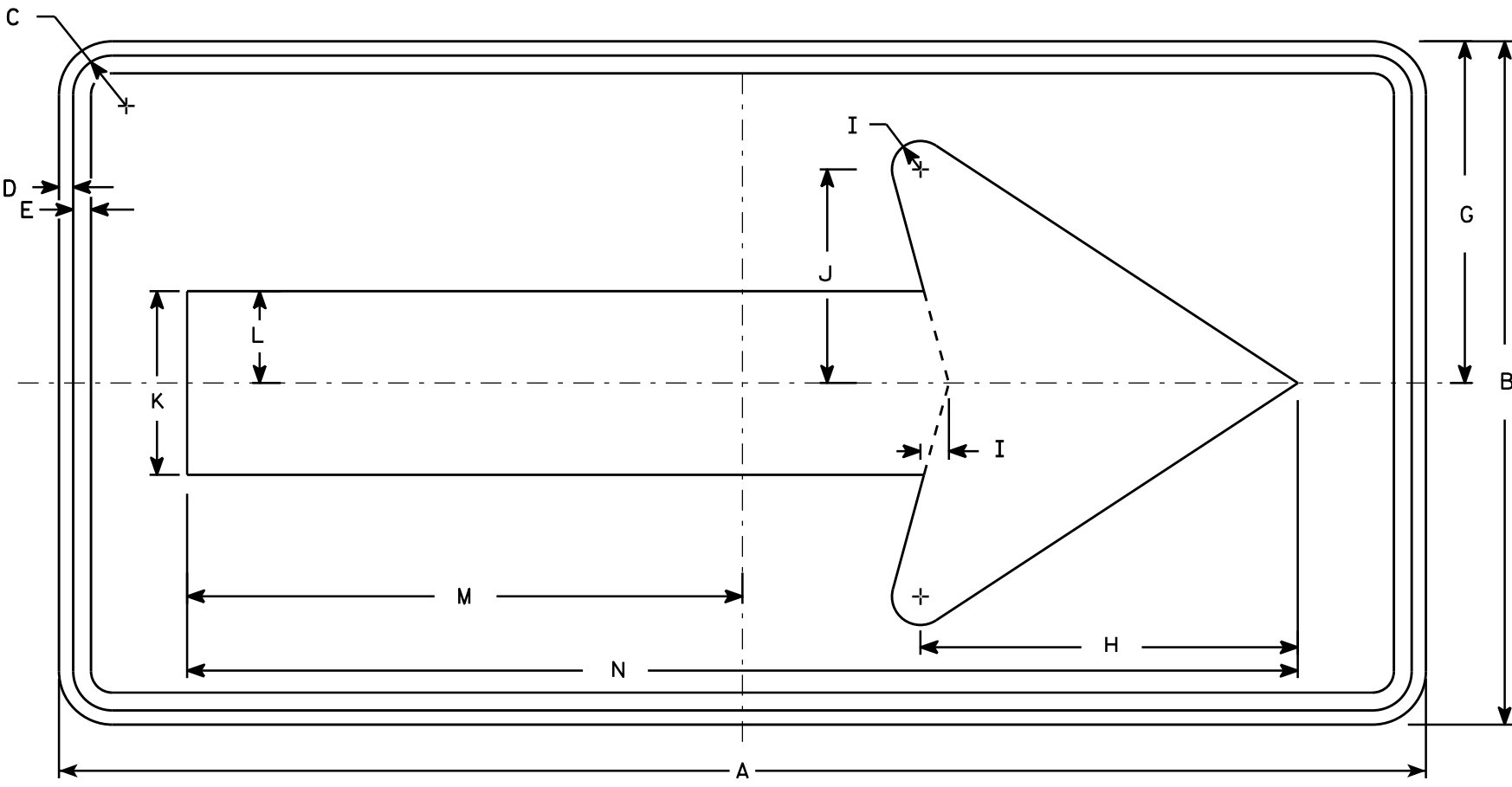
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 92

E



W01-6

NOTES

- 1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - Orange
Message - Black
- 3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
2M	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
3	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
4	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
5	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5

STANDARD SIGN
W01-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

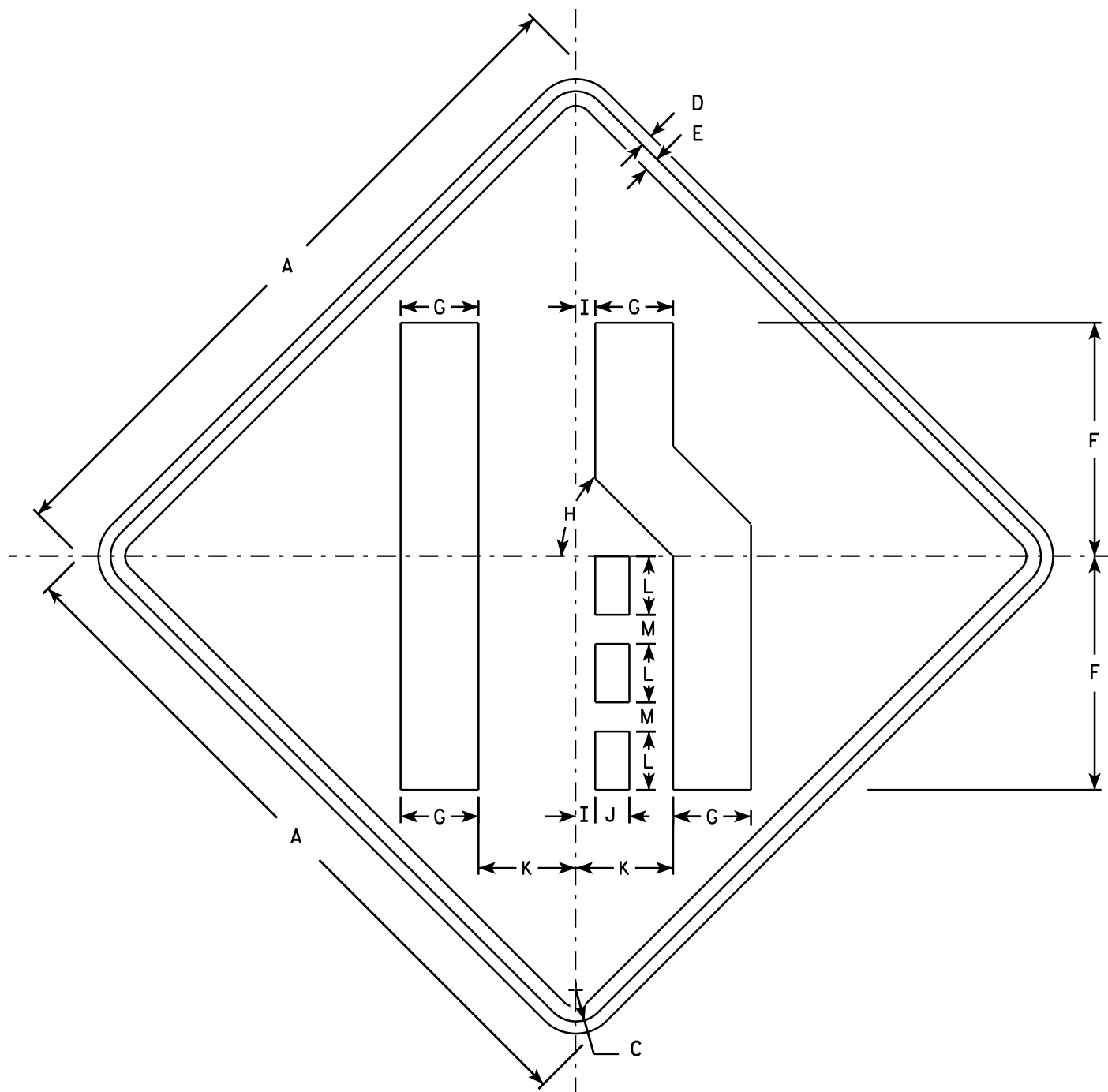
DATE 11/18/13 PLATE NO. 93 W01-6.1

PROJECT NO:

HWY:

COUNTY:

SHEET NO: E



W04-2R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W04-2L is the same as W04-2R except the symbol is reversed along the vertical centerline.

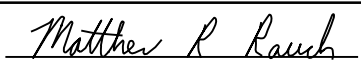
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
2S	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
2M	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
3	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
4	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
5	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0

STANDARD SIGN

W04-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED



Matthew R. Rauch
 For State Traffic Engineer

DATE 11/20/13

PLATE 94

W04-2.1

1020-01-83

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
 INVENTORY RATING FACTOR: 1.15
 OPERATING RATING FACTOR: 1.64
 WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 240 KIPS

STRUCTURE IS DESIGNED FOR A FUTURE WEARING
 SURFACE OF 20" S.F.

MATERIAL PROPERTIES:

CONCRETE MASONRY { SUPERSTRUCTURE $f'_c = 4,000$ p.s.i.
 ALL OTHER $f'_c = 3,500$ p.s.i.
 HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60) $f_y = 60,000$ p.s.i.

45W" PRESTRESSED GIRDER

CONCRETE MASONRY $f'_c = 8,000$ p.s.i.
 STRANDS - 0.6" DIA. WITH ULTIMATE TENSILE STRENGTH $f_y = 270,000$ p.s.i.

FOUNDATION DATA:

ABUTMENTS TO BE SUPPORTED ON HP 10 x 42 STEEL PILING (WITH PILE POINTS)
 DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS * PER PILE AS
 DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED LENGTH 40'-0".

PIER TO BE SUPPORTED ON HP 10 x 42 STEEL PILING (WITH PILE POINTS)
 DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS * PER PILE AS
 DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED LENGTH 20'-0".

*THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS
 THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5
 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

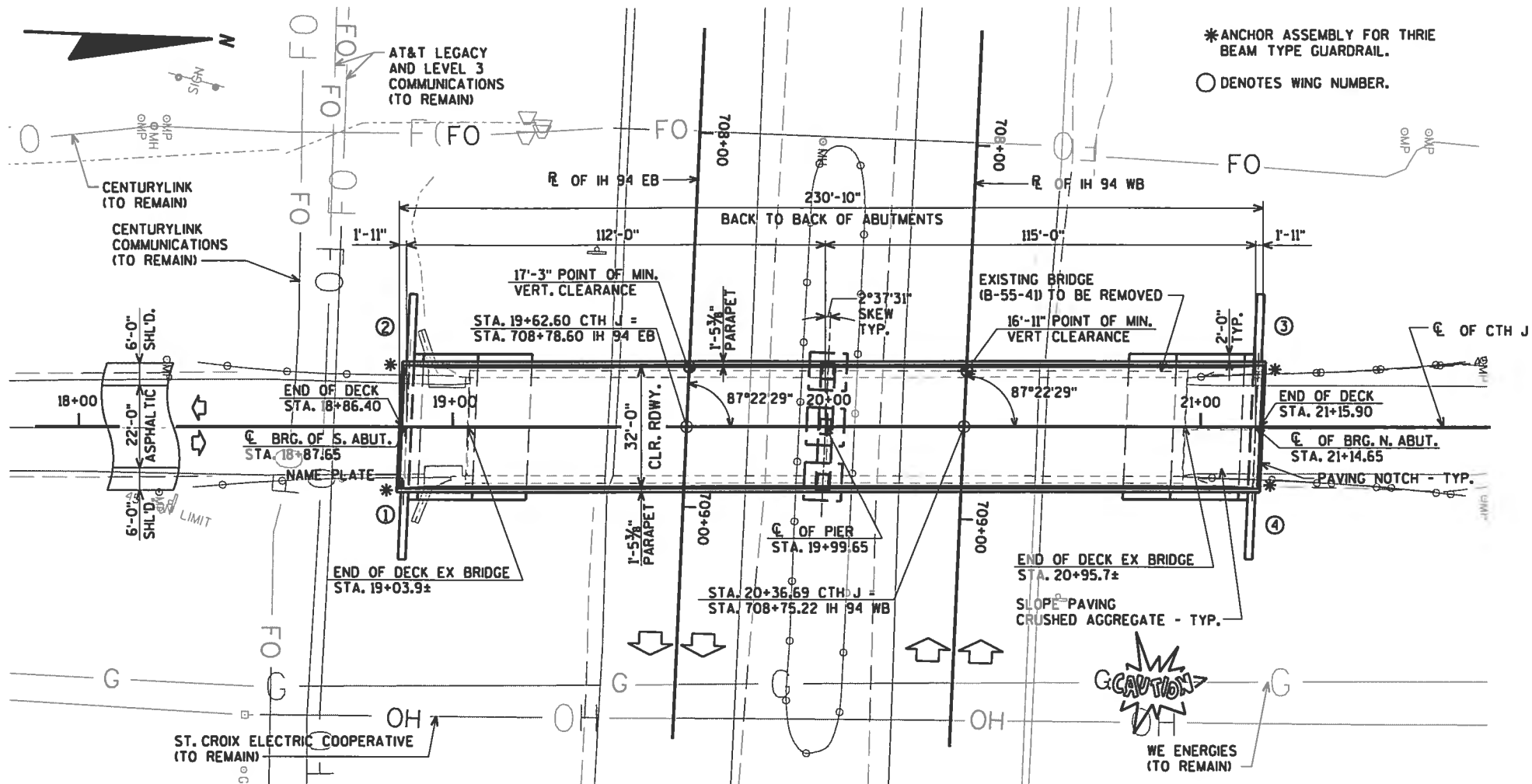
TRAFFIC DATA:

IH 94

A.D.T. = 36,500 (2016)
 A.D.T. = 44,900 (2036)
 R.D.S. = 70 M.P.H.

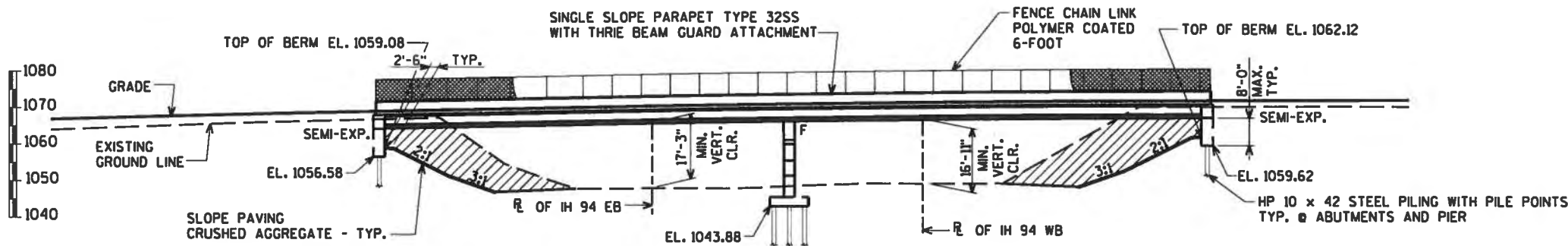
CTH J

A.D.T. = 550 (2016)
 A.D.T. = 770 (2036)
 R.D.S. = 50 M.P.H.



PLAN
 TWO-SPAN 45W" PRESTRESSED
 CONCRETE GIRDER BRIDGE

COST OF EXCAVATION AND FILL IN THE HATCHED
 AREAS SHALL BE INCLUDED IN THE CONTRACT LUMP
 SUM PRICE FOR "EXCAVATION FOR STRUCTURES
 BRIDGES B-55-259".



ELEVATION
 (NORMAL TO IH 94)

LIST OF DRAWINGS

1. GENERAL PLAN
2. QUANTITIES AND NOTES
3. TYPICAL SECTIONS & PROFILE GRADE LINES
4. SUBSURFACE EXPLORATION
5. SOUTH ABUTMENT
6. SOUTH ABUTMENT DETAILS
7. SOUTH ABUTMENT BILL OF BARS
8. NORTH ABUTMENT
9. NORTH ABUTMENT DETAILS
10. NORTH ABUTMENT BILL OF BARS
11. PIER
12. PIER DETAILS
13. 45W" PRESTRESSED GIRDER DETAILS
14. 45W" PRESTRESSED GIRDER DETAILS
15. INTERM. STEEL DIAPHS. DETAILS
16. SUPERSTRUCTURE
17. SUPERSTRUCTURE PLAN
18. SUPERSTRUCTURE DETAILS
19. SINGLE SLOPE PARAPET 32SS
20. FENCING DETAILS
21. SLOPE PAVING CRUSHED AGGREGATE

FOR TYPICAL SECTION,
 BID ITEMS, AND GENERAL
 NOTES SEE SHEET 2

NO.	DATE	REVISION	BY
ORIGINAL PLANS PREPARED BY AYRES ASSOCIATES 3433 Oakwood Hills Parkway Eau Claire, WI 54701 www.AyresAssociates.com			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED <i>William C. Dreher</i> SDR 08/17/15		CHIEF STRUCTURES DESIGN ENGINEER DATE	
STRUCTURE B-55-259			
CTH J OVER IH 94			
COUNTY	ST. CROIX	TOWN/CITY/VILLAGE	PLEASANT VALLEY
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS			
DESIGNED BY	CJM	DESIGN CK'D.	AEB
DRAWN BY	CJM/CLS	PLANS CK'D.	BNS
GENERAL PLAN			SHEET 1 OF 21 95



BRIDGE OFFICE CONTACT:
 WILLIAM DREHER
 (608)-266-8489

CONSULTANT CONTACT:
 DAN SYDOW
 (715)-834-3161

\$PRNAME\$
U:\42-0886.00 - St. Croix Co, 194 Overpasses x3\42-0886.03 B-55-41.CTH J-BRIDGE\42088603 gpt.dgn

STATE PROJECT NUMBER

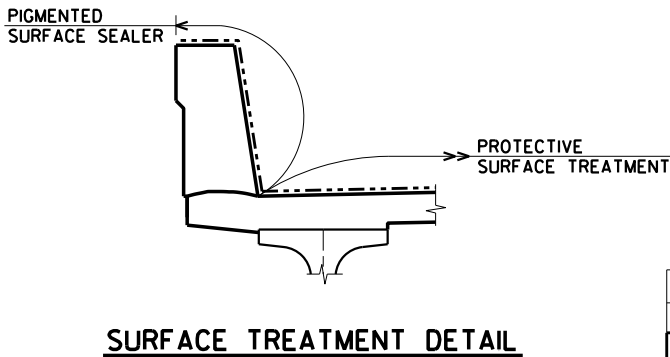
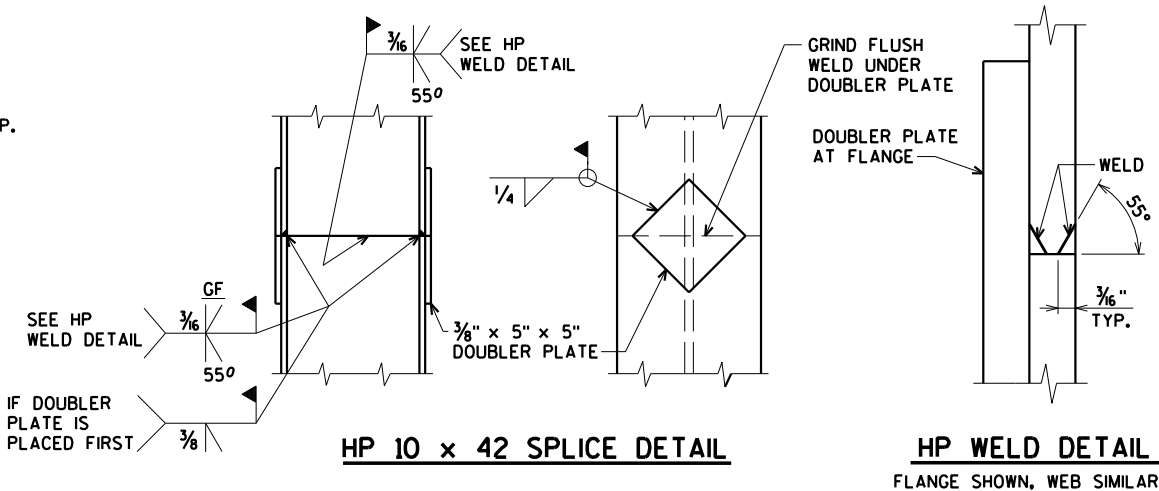
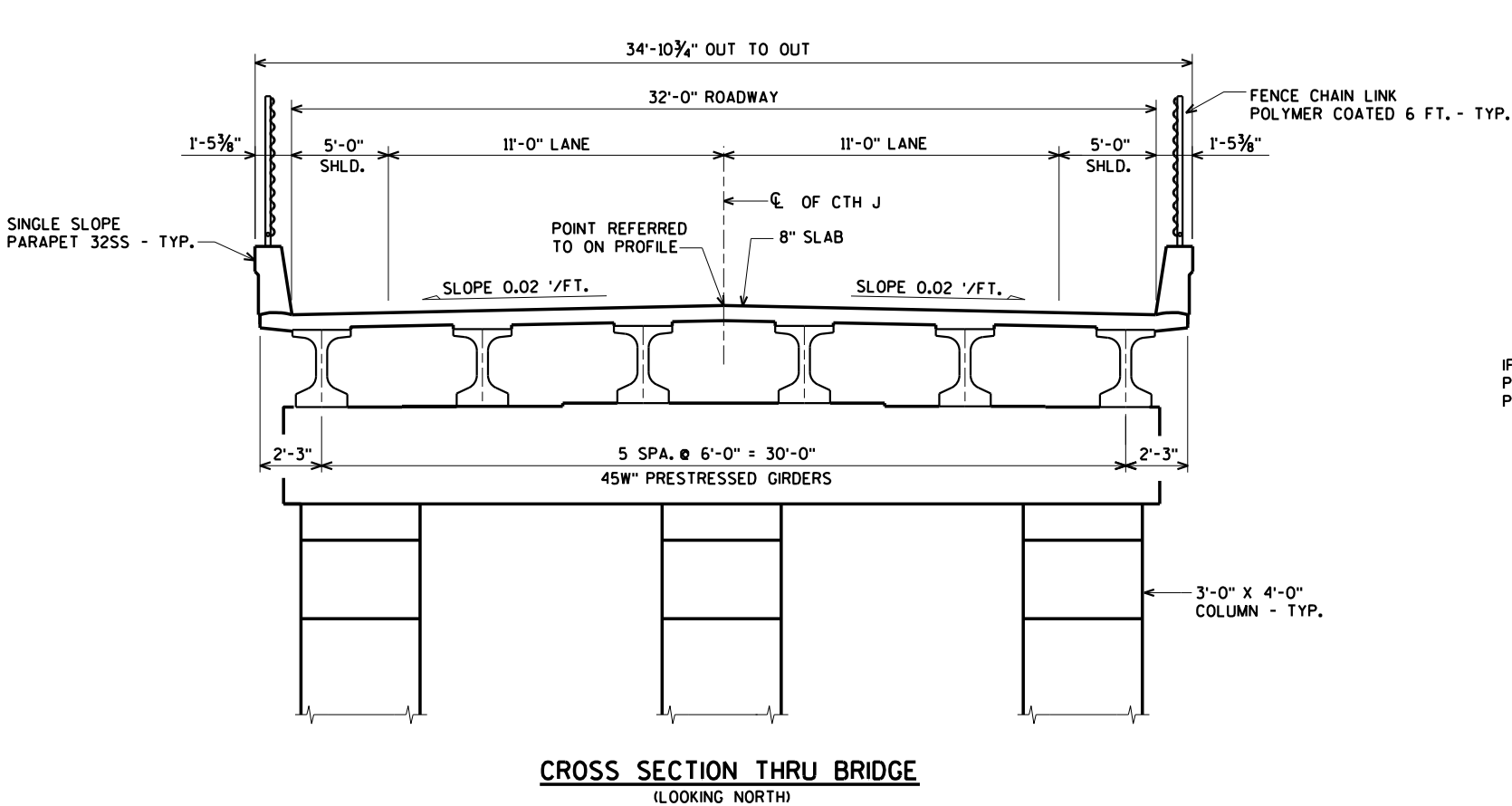
1020-01-83

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	S. ABUT.	PIER	N. ABUT.	SUPER.	TOTAL
203.0200	REMOVING OLD STRUCTURE STA. 20+00	LS	----	----	----	----	1
203.0225.S	DEBRIS CONTAINMENT B-55-259	LS	----	----	----	----	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-55-259	LS	----	----	----	----	1
210.0100	BACKFILL STRUCTURE	CY	355	----	355	----	710
502.0100	CONCRETE MASONRY BRIDGES	CY	58	73	58	348	537
502.3200	PROTECTIVE SURFACE TREATMENT	SY	----	----	----	820	820
502.3210	PIGMENTED SURFACE SEALER	SY	----	----	----	190	190
503.0146	PRESTRESSED GIRDER TYPE 145W-INCH	LF	----	----	----	1,367	1,367
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	2,970	2,170	3,000	----	8,140
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	2,430	11,530	2,420	68,410	84,790
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	6	12	6	----	24
506.4000	STEEL DIAPHRAGMS B-55-259	EACH	----	----	----	20	20
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	8	----	8	----	16
550.0500	PILE POINTS	EACH	12	27	13	----	52
550.1100	PIILING STEEL HP 10-INCH x 42 LB	LF	480	540	520	----	1,540
604.0500	SLOPE PAVING CRUSHED AGGREGATE	SY	145	----	155	----	300
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	95	----	95	----	190
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	2	----	2	----	4
SPV.0090	FENCE CHAIN LINK POLYMER COATED 6-FT	LF	----	----	----	460	460
	NON-BID ITEMS						
	FILLER	SIZE	----	----	----	----	1/2" & 3/4"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.
BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OR NOTED OTHERWISE.
THE FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFIES THE BAR SIZE.
JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M 153, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M 213.
THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH SLOPE PAVING MATERIAL TO THE EXTENT SHOWN SHOWN ON THE GENERAL PLAN SHEET AND IN THE ABUTMENT DETAILS.
PROTECTIVE SURFACE TREATMENT AND PIGMENTED SURFACE SEALER TO BE APPLIED AS SHOWN ON THE DETAIL ON THIS SHEET.
ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.
THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMIT FOR EXCAVATION FOR STRUCTURES.
THE EXISTING STRUCTURE, B-55-41, TO BE REMOVED, IS A FOUR SPAN 36" PRESTRESSED CONCRETE GIRDER BRIDGE, 191.2 FT. LONG WITH A 26.0 FT. CLEAR ROADWAY WIDTH. STRUCTURE HAS THREE PIERS SUPPORTED ON SPREAD FOOTINGS AND TWO ABUTMENTS SUPPORTED ON TIMBER PILES.
AT BACKFACE OF ABUTMENTS ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE.
THE HAUNCH QUANTITY IS BASED ON AN AVERAGE HAUNCH DEPTH SHOWN ON THE PRESTRESSED GIRDER DETAILS SHEETS, WHICH IS THE MAXIMUM HAUNCH QUANTITY FOR WHICH THE CONTRACTOR WILL BE PAID.



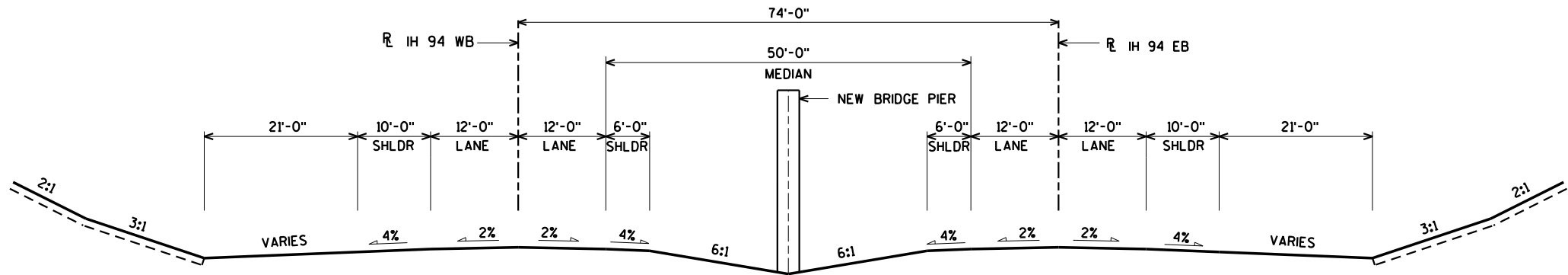
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-55-259			
DRAWN BY CJM/CLS		PLANS CK'D. CJM	
QUANTITIES AND NOTES		SHEET 2 OF 21 96	

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
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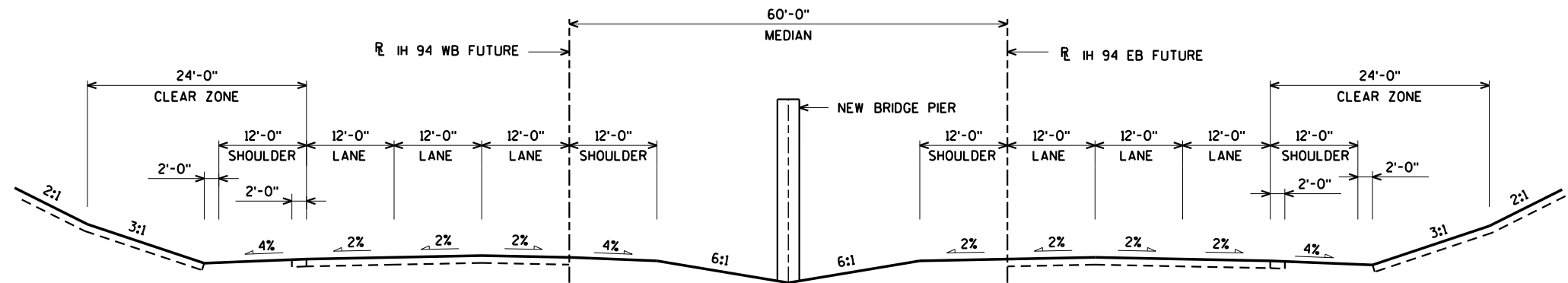
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U:\42-0886.00 - St. Croix Co, I94 Overpasses x3\42-0886.03 B-55-41 CTH J\BRIDGE\42088603 gpt.y.dgn

STATE PROJECT NUMBER

1020-01-83

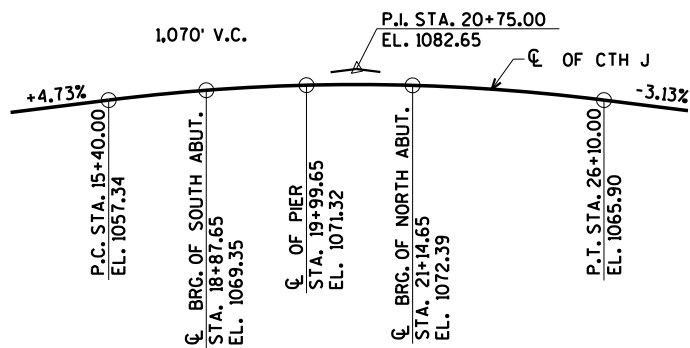


TYPICAL SECTION THRU IH 94



TYPICAL FUTURE SECTION THRU IH 94

(SECTION USED TO SIZE STRUCTURE)

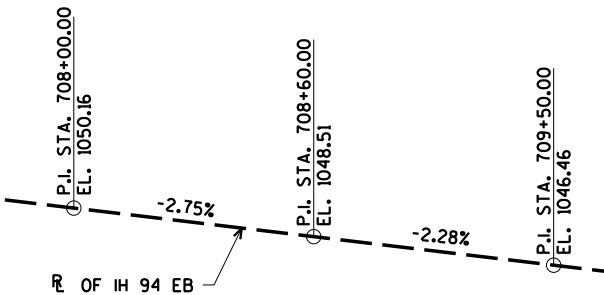


PROFILE GRADE LINE

(CTH J)

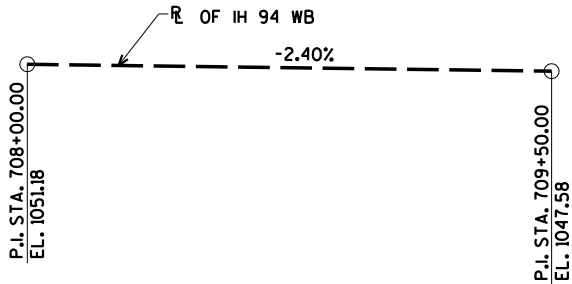
BENCH MARK:

CAP IN TOP OF PARAPET, NW QUADRANT OF EXISTING BRIDGE
STA. 20+93.75, 14' LT.
EL. 1072.35



PROFILE GRADE LINE

(IH 94 EB)



PROFILE GRADE LINE

(IH 94 WB)

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-55-259			
DRAWN BY CJM/CLS		PLANS CK'D. CJM	
TYPICAL SECTIONS AND PROFILE GRADE LINES			SHEET 3 OF 21 97

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Eau Claire, WI 54701
www.AyresAssociates.com

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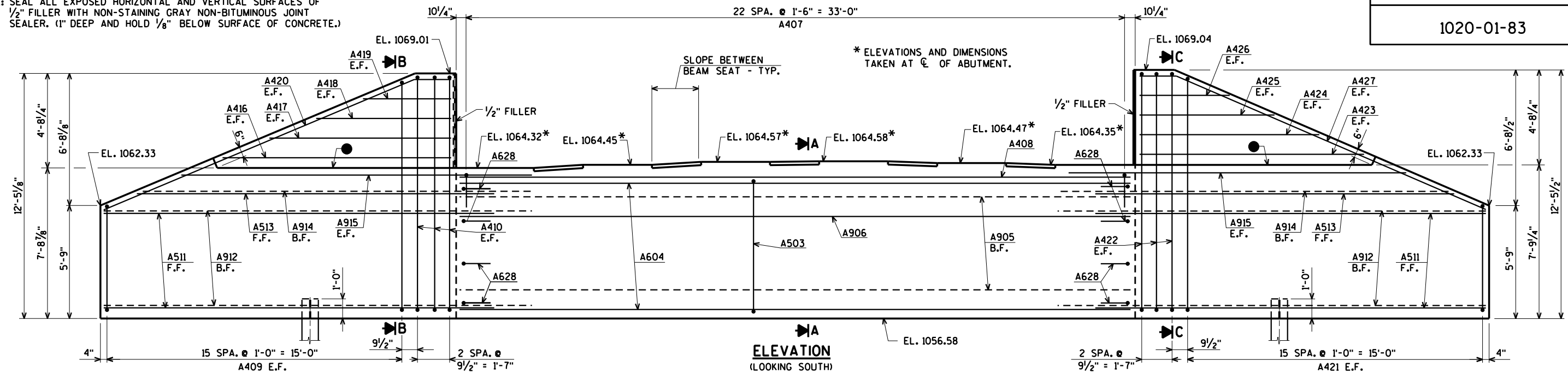
7/28/2015

\$PRNAME\$
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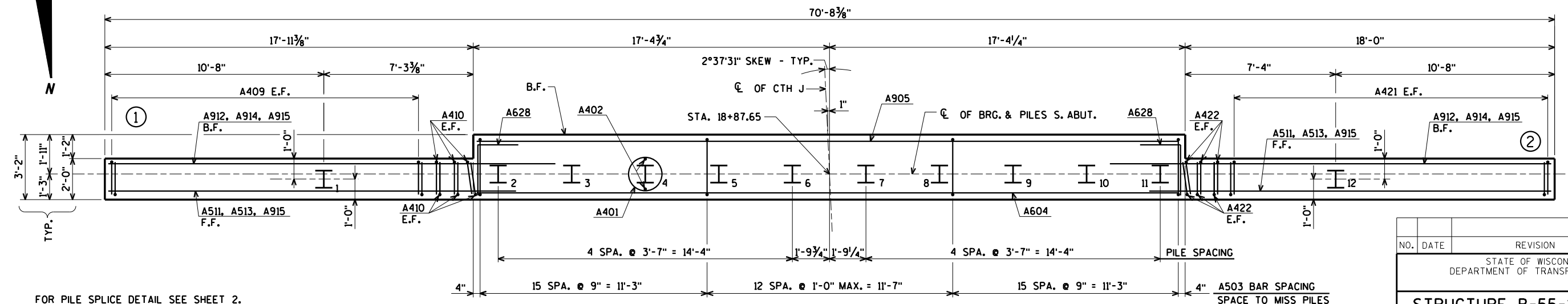
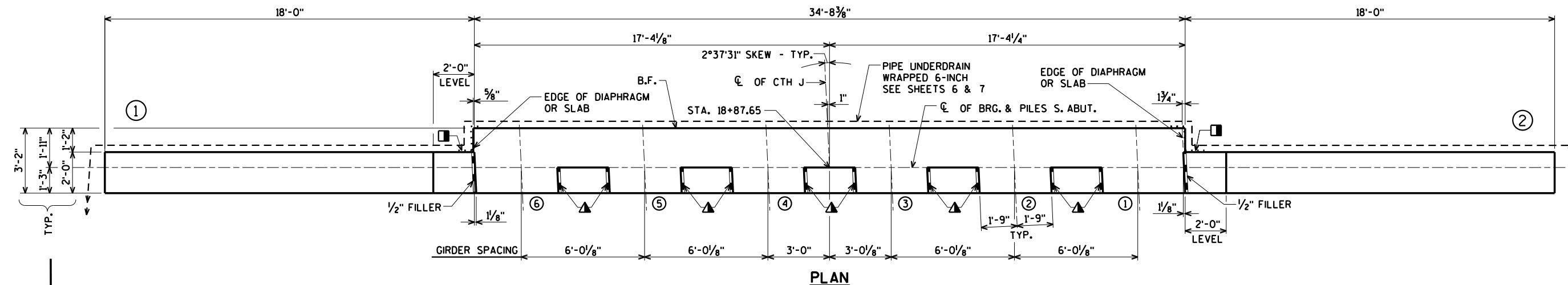
NOTE: SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF
1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT
SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE.)

STATE PROJECT NUMBER

1020-01-83



FOR SECTIONS A, B & C SEE SHEET 6



FOR PILE SPLICE DETAIL SEE SHEET 2.

- 18" RUBBERIZED MEMBRANE WATERPROOFING FROM BRIDGE SEAT TO TOP OF WING.
- 3/4" CORK FILLER ON VERTICAL BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.

F.F. DENOTES FRONT FACE
B.F. DENOTES BACK FACE
E.F. DENOTES EACH FACE

OPT. KEYED CONST. JOINT - FORMED BY A SURFACED BEVELED 2" x 6" WITH RUBBERIZED MEMBRANE WATERPROOFING ON B.F. (COST IS INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES") AND 3/4" "V" GROOVE ON F.F.

ORIGINAL PLANS PREPARED BY
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Eau Claire, WI 54701
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NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-55-259			
DRAWN BY		CLS	PLANS CK'D. CJM
SOUTH ABUTMENT		SHEET 5 OF 21 99	

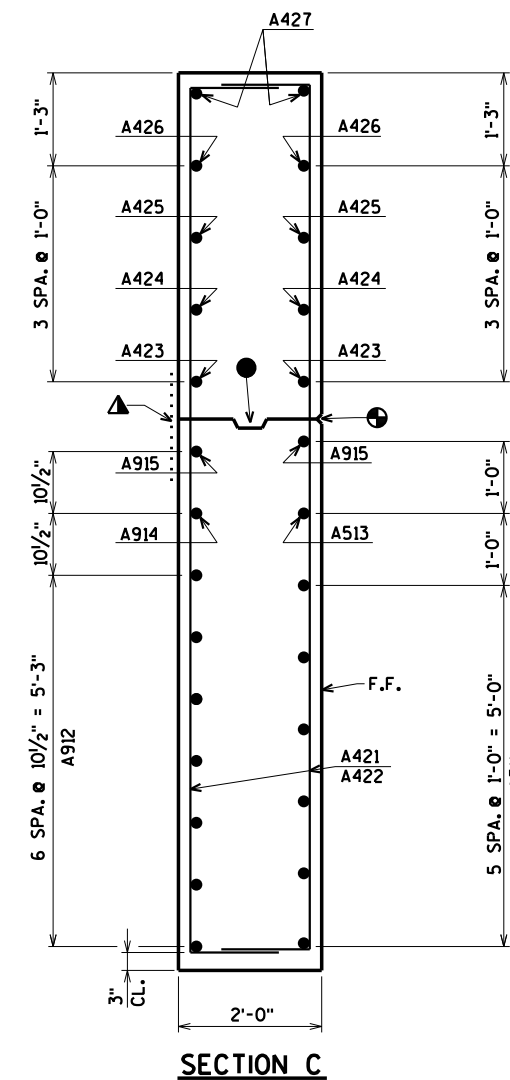
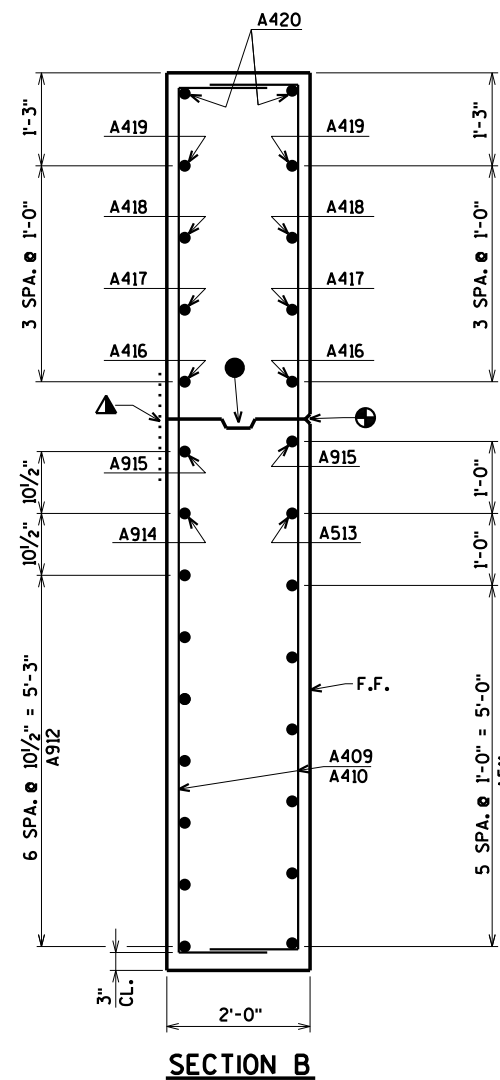
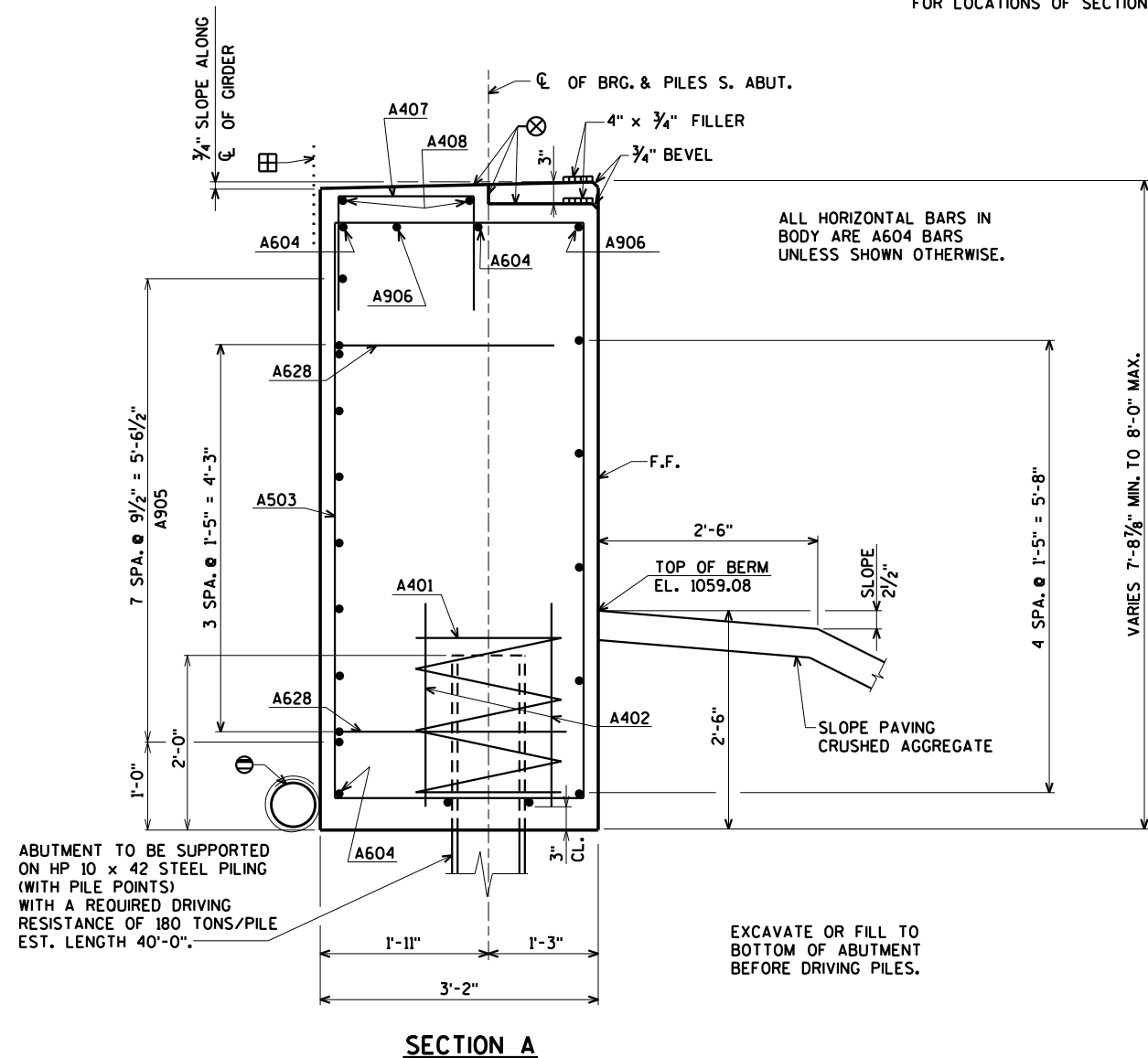
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8

STATE PROJECT NUMBER

1020-01-83

FOR LOCATIONS OF SECTIONS A, B & C SEE SHEET 5



- OPT. KEYED CONST. JOINT - FORMED BY A SURFACED BEVELED 2" x 6".
- ⊕ 3/4" 'V' GROOVE ON F.F. OF WING WALL NOT REQUIRED IF CONST. JT. IS NOT USED.
- ⊗ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING AND/OR SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ▲ RUBBERIZED MEMBRANE WATERPROOFING IF CONST. JT. IS USED. COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES".

⊖ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. FOR DETAILS SEE SHEET 7.

⊞ 18" RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE OF ABUTMENT.

FOR PILE SPlice DETAIL SEE SHEET 2.

F.F. DENOTES FRONT FACE

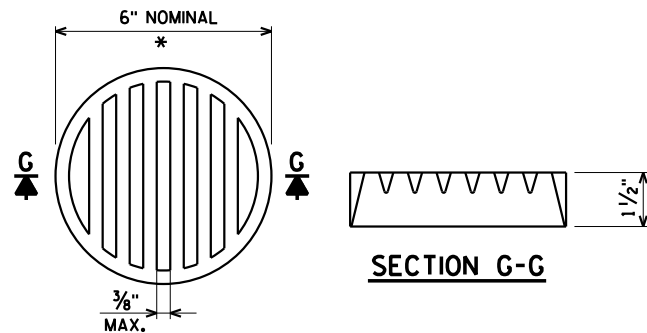
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NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-55-259			
DRAWN BY		CLS	PLANS CK'D. CJM
SOUTH ABUTMENT DETAILS		SHEET 6 OF 21 100	

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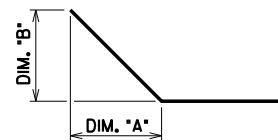
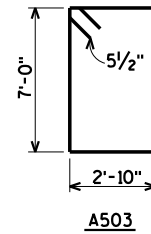
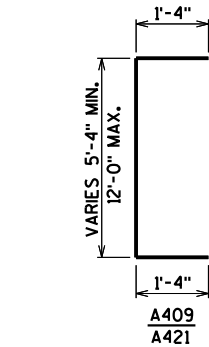
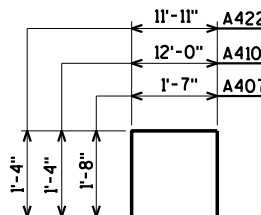
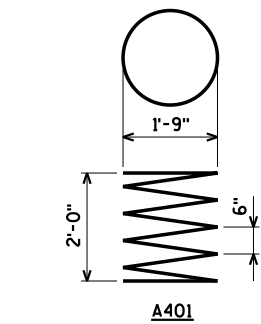


* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 x 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

RODENT SHIELD DETAIL



BAR NO.	DIM. "A"	DIM. "B"
A420	15'-10"	6'-7"
A427	15'-10"	6'-7"

BAR SERIES TABLE

BAR MARK	NO REQ'D.	LENGTH
A409	2 SERIES OF 16	7'-10" TO 14'-6"
A421	2 SERIES OF 16	7'-10" TO 14'-6"

BUNDLE AND TAG EACH SERIES SEPARATELY.

STATE PROJECT NUMBER

1020-01-83

BILL OF BARS

BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR SERIES	2,970* UNCOATED 2,430* COATED
						LOCATION
A401		10	28-0	X		BODY @ PILES
A402		20	2-3			BODY @ PILES
A503		43	20-3	X		BODY VERT.
A604		10	34-5			BODY HORIZ.
A905		8	34-5			BODY HORIZ. B.F.
A906		2	34-4			BODY HORIZ.
A407		23	4-9	X		BODY VERT.
A408		2	34-4			BODY HORIZ.
A409	X	32	11-1	X	⊗	WING 1 VERT. E.F.
A410	X	6	14-6	X		WING 1 VERT. E.F.
A511	X	12	19-7			WING 1 & 2 HORIZ. F.F.
A912	X	14	22-5			WING 1 & 2 HORIZ. B.F.
A513	X	2	18-1			WING 1 & 2 HORIZ. F.F.
A914	X	2	20-11			WING 1 & 2 HORIZ. B.F.
A915	X	4	15-9			WING 1 & 2 HORIZ. E.F.
A416	X	2	11-5			WING 1 HORIZ. E.F.
A417	X	2	9-1			WING 1 HORIZ. E.F.
A418	X	2	6-9			WING 1 HORIZ. E.F.
A419	X	2	4-5			WING 1 HORIZ. E.F.
A420	X	2	18-11	X		WING 1 DIAG. E.F.
A421	X	32	11-1	X	⊗	WING 2 VERT. E.F.
A422	X	6	14-5	X		WING 2 VERT. E.F.
A423	X	2	11-5			WING 2 HORIZ. E.F.
A424	X	2	8-11			WING 2 HORIZ. E.F.
A425	X	2	6-6			WING 2 HORIZ. E.F.
A426	X	2	4-1			WING 2 HORIZ. E.F.
A427	X	2	18-11	X		WING 2 DIAG. E.F.
A628		8	3-8	X		BODY HORIZ. - ENDS

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

⊗ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

F.F. DENOTES FRONT FACE

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-55-259			
DRAWN BY	CLS	PLANS CK'D.	CJM
SOUTH ABUTMENT BILL OF BARS			SHEET 7 OF 21 101

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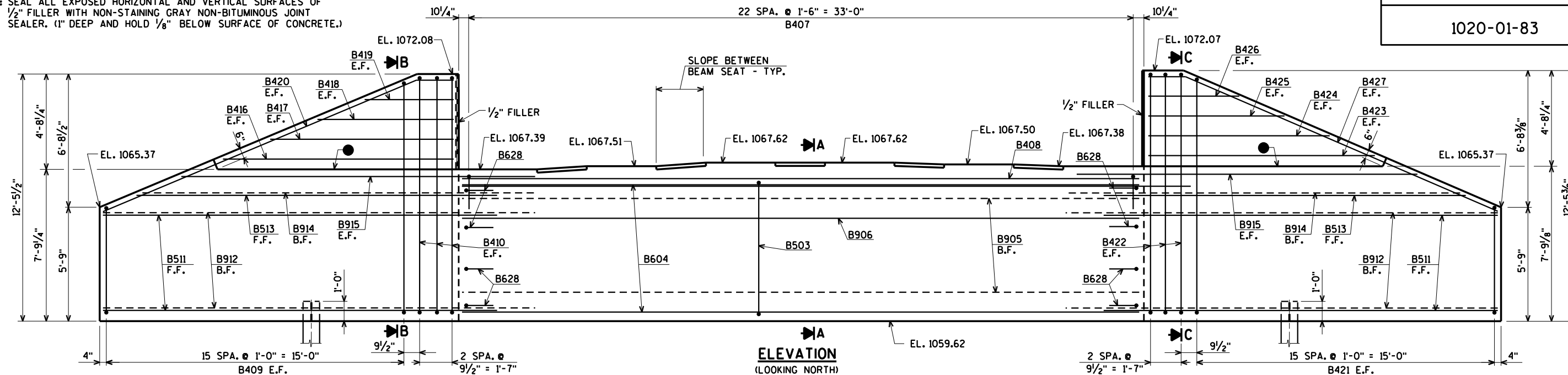
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NOTE: SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF
1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT
SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE.)

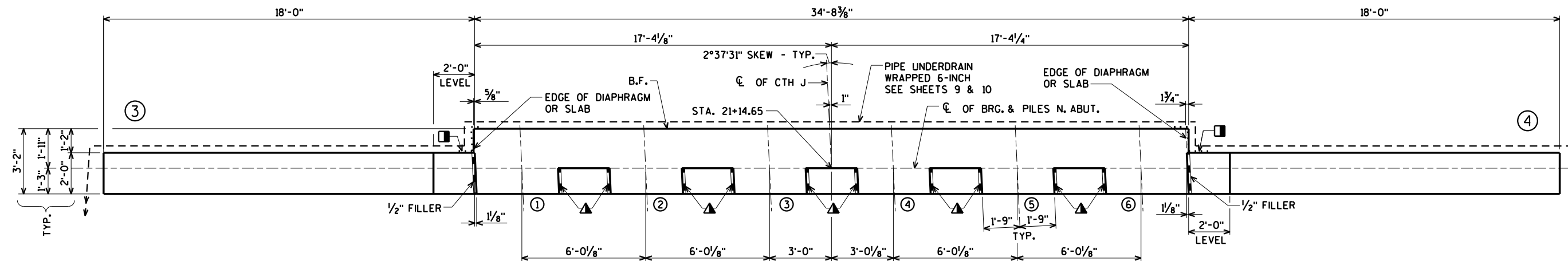
STATE PROJECT NUMBER

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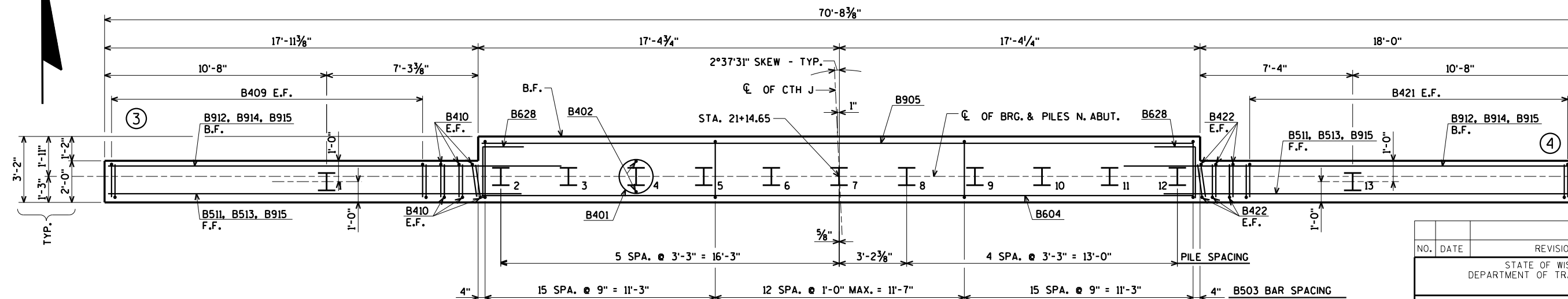


ELEVATION
(LOOKING NORTH)

FOR SECTIONS A, B & C SEE SHEET 9



PLAN



PILE LAYOUT

FOR PILE SPLICE DETAIL SEE SHEET 2.

- 18" RUBBERIZED MEMBRANE WATERPROOFING FROM BRIDGE SEAT TO TOP OF WING.
- 3/4" CORK FILLER ON VERTICAL BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.

F.F. DENOTES FRONT FACE
B.F. DENOTES BACK FACE
E.F. DENOTES EACH FACE

OPT. KEYED CONST. JOINT - FORMED BY A SURFACED BEVELED 2" x 6" WITH RUBBERIZED MEMBRANE WATERPROOFING ON B.F. (COST IS INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES") AND 3/4" "V" GROOVE ON F.F.

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STRUCTURE B-55-259			
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NORTH ABUTMENT		SHEET 8 OF 21 102	

FOR LOCATIONS OF SECTIONS A, B & C SEE SHEET 8



- F.F. DENOTES FRONT FACE

⊖ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. FOR DETAILS SEE SHEET 7.

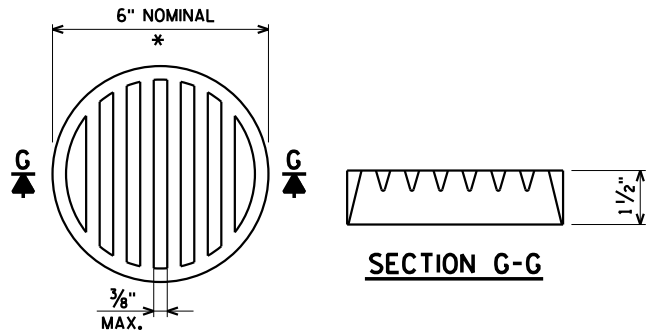
☐ 18" RUBBERIZED MEMBRANE WATERPROOFING
SEAL ALL HORIZONTAL AND VERTICAL JOINTS
ON BACKFACE OF ABUTMENT.

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NORTH ABUTMENT DETAILS		SHEET 9 OF 21	
		103	

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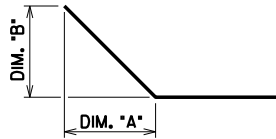
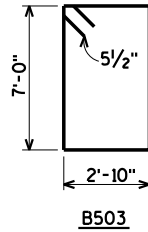
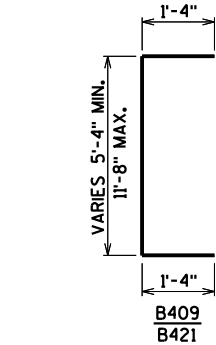
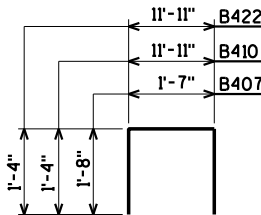
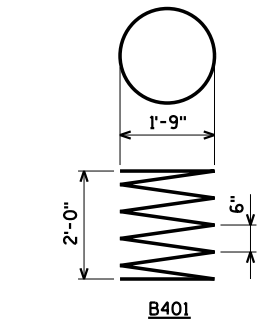


* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

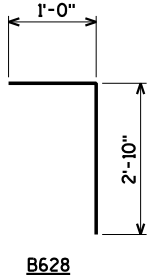
THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 x 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

RODENT SHIELD DETAIL



BAR NO.	DIM. "A"	DIM. "B"
B420	15'-10"	6'-7"
B427	15'-10"	6'-7"



BAR SERIES TABLE

BAR MARK	NO REQ'D.	LENGTH
B409	2 SERIES OF 16	7'-10" TO 14'-2"
B421	2 SERIES OF 16	7'-10" TO 14'-2"

BUNDLE AND TAG EACH SERIES SEPARATELY.

STATE PROJECT NUMBER

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BILL OF BARS

BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR SERIES	3,000# UNCOATED 2,420# COATED
						LOCATION
B401		11	28-0	X		BODY @ PILES
B402		22	2-3			BODY @ PILES
B503		43	20-3	X		BODY VERT.
B604		10	34-5			BODY HORIZ.
B905		8	34-5			BODY HORIZ. B.F.
B906		2	34-5			BODY HORIZ.
B407		23	4-9	X		BODY VERT.
B408		2	34-4			BODY HORIZ.
B409	X	32	11-0	X	⊗	WING 3 VERT. E.F.
B410	X	6	14-5	X		WING 3 VERT. E.F.
B511	X	12	19-7			WING 3 & 4 HORIZ. F.F.
B912	X	14	21-6			WING 3 & 4 HORIZ. B.F.
B513	X	2	18-1			WING 3 & 4 HORIZ. F.F.
B914	X	2	20-8			WING 3 & 4 HORIZ. B.F.
B915	X	4	18-7			WING 3 & 4 HORIZ. E.F.
B416	X	2	11-3			WING 3 HORIZ. E.F.
B417	X	2	8-11			WING 3 HORIZ. E.F.
B418	X	2	6-6			WING 3 HORIZ. E.F.
B419	X	2	4-2			WING 3 HORIZ. E.F.
B420	X	2	18-11	X		WING 3 DIAG. E.F.
B421	X	32	11-0	X	⊗	WING 4 VERT. E.F.
B422	X	6	14-5	X		WING 4 VERT. E.F.
B423	X	2	11-5			WING 4 HORIZ. E.F.
B424	X	2	9-1			WING 4 HORIZ. E.F.
B425	X	2	6-7			WING 4 HORIZ. E.F.
B426	X	2	4-2			WING 4 HORIZ. E.F.
B427	X	2	18-11	X		WING 4 DIAG. E.F.
B628		8	3-8	X		BODY HORIZ. - ENDS

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

⊗ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

F.F. DENOTES FRONT FACE

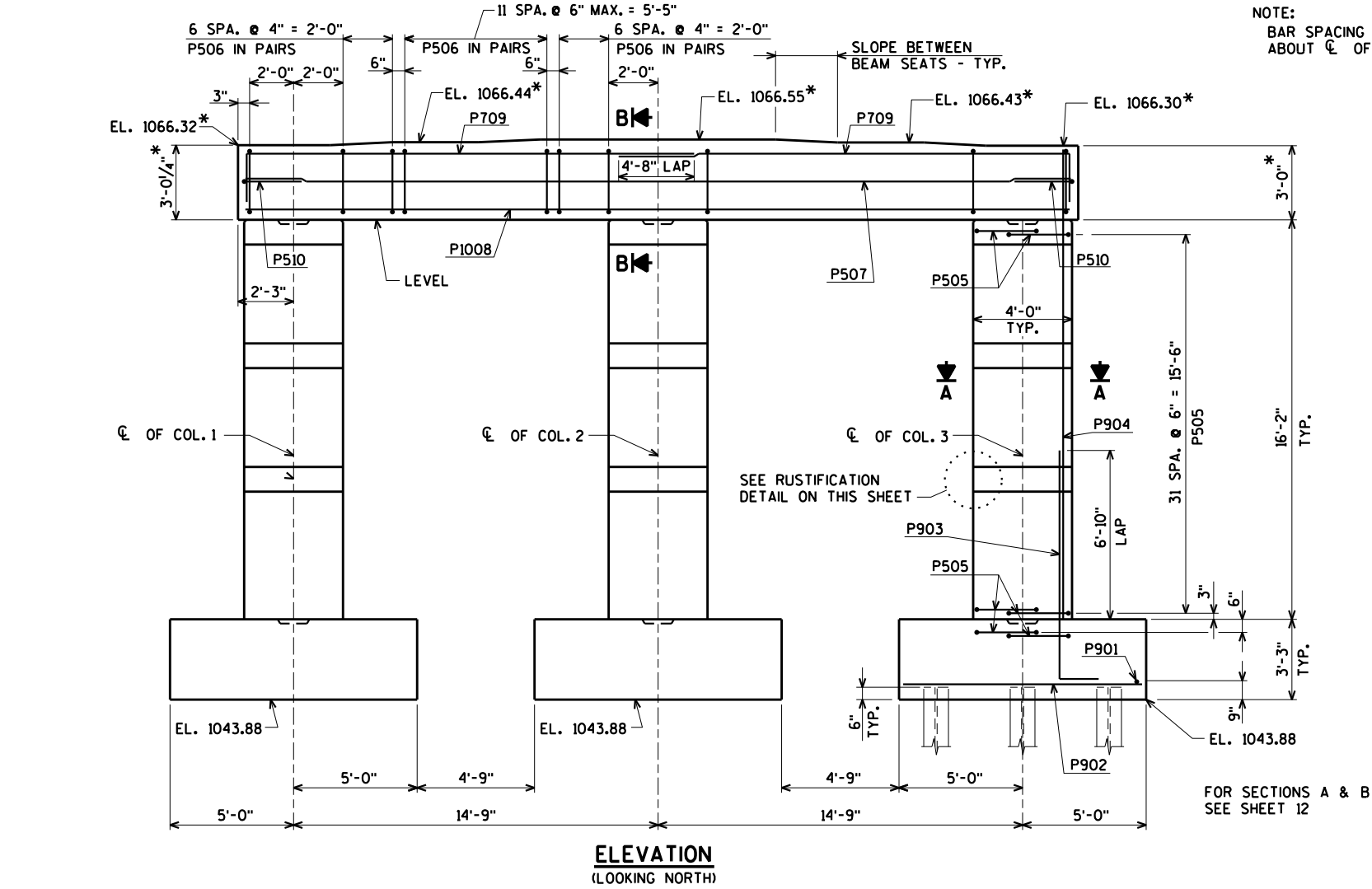
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STRUCTURE B-55-259			
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NORTH ABUTMENT BILL OF BARS			SHEET 10 OF 21 104

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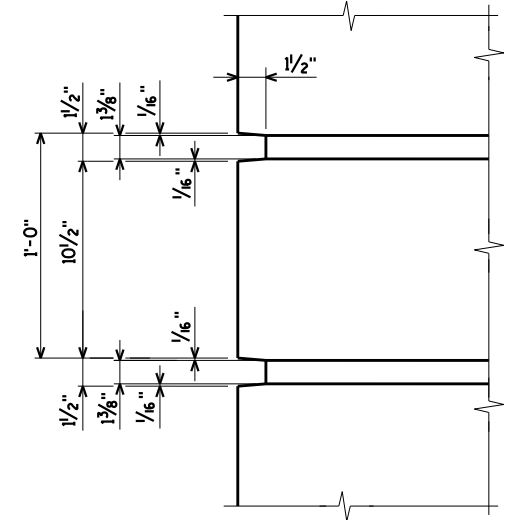
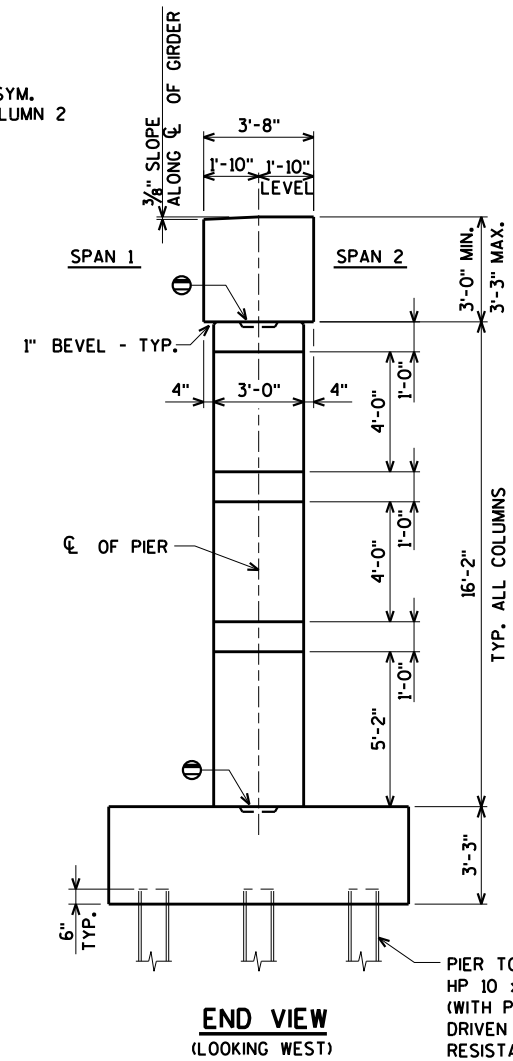
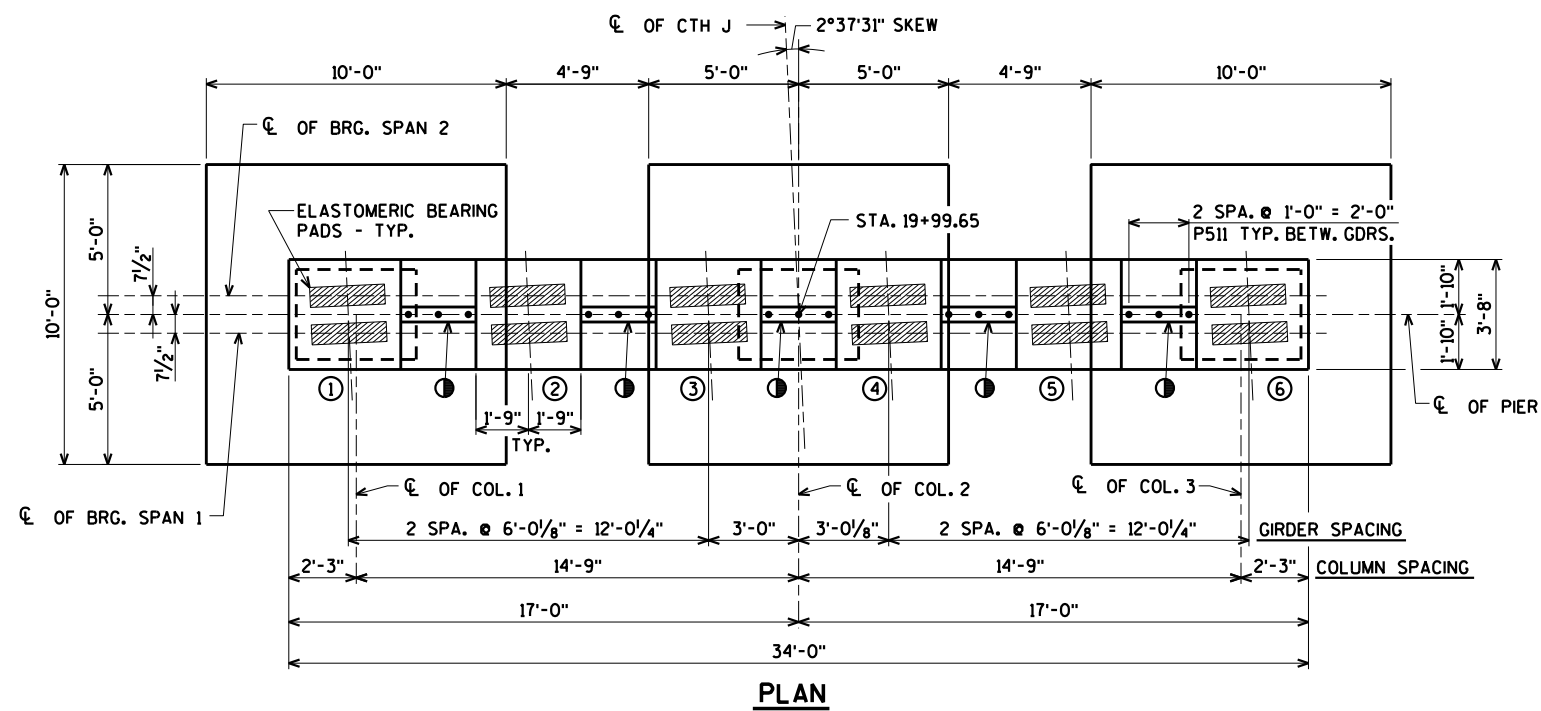
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8



NOTE:
BAR SPACING IS SYM.
ABOUT C/L OF COLUMN 2

FOR SECTIONS A & B
SEE SHEET 12



*ELEVATIONS AND DIMENSIONS
TAKEN AT C/L OF PIER.

FOR PILE SPlice DETAIL SEE SHEET 2.

① KEYED CONST. JOINT - FORMED BY A
SURFACED BEVELED 2" x 6".

② 1'-3" x 2'-0" x 4" CONST. JOINT
FORMED BY BEVELED KEYWAY.
TYPICAL ALL COLUMNS & FOOTINGS.

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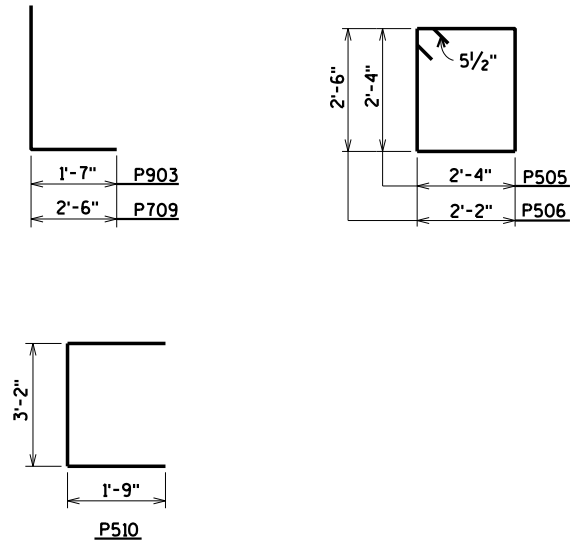
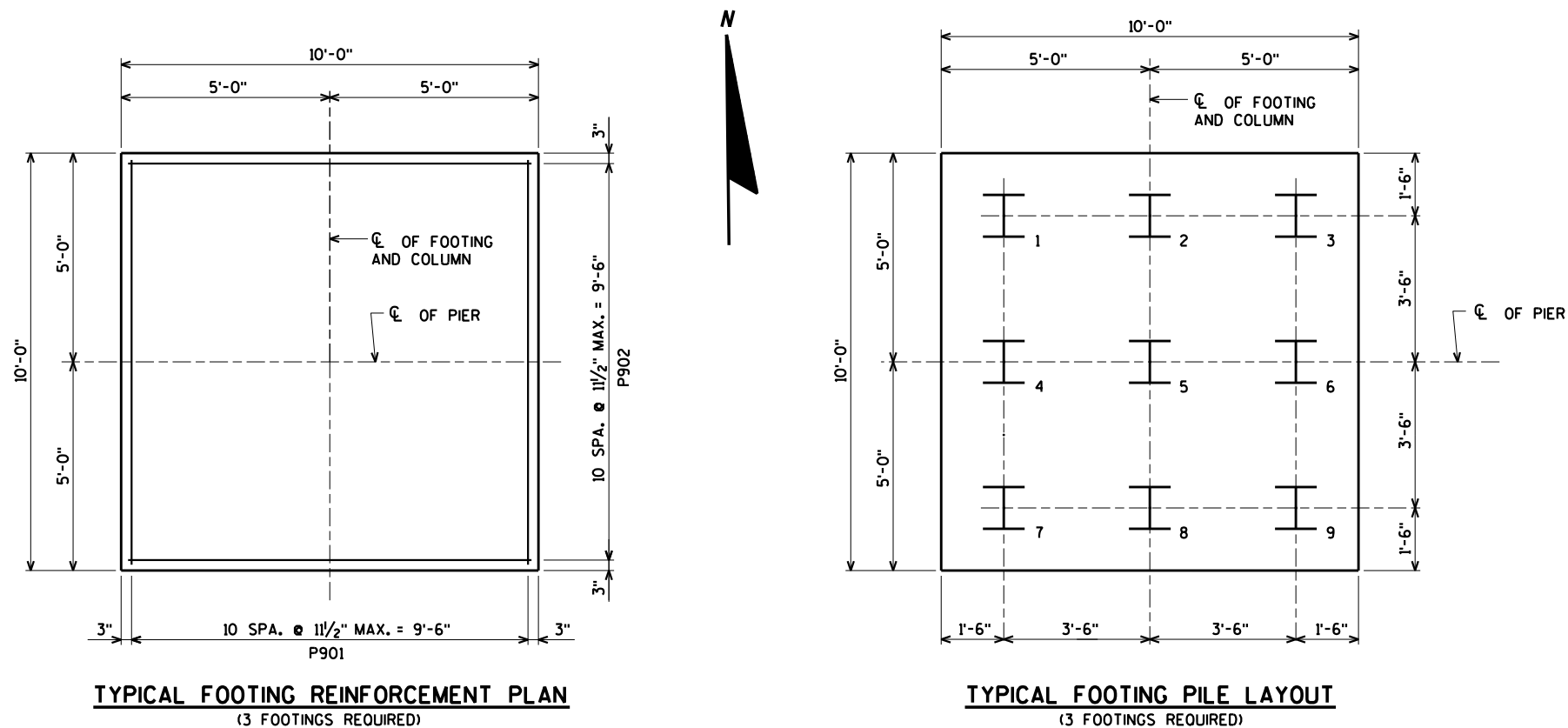
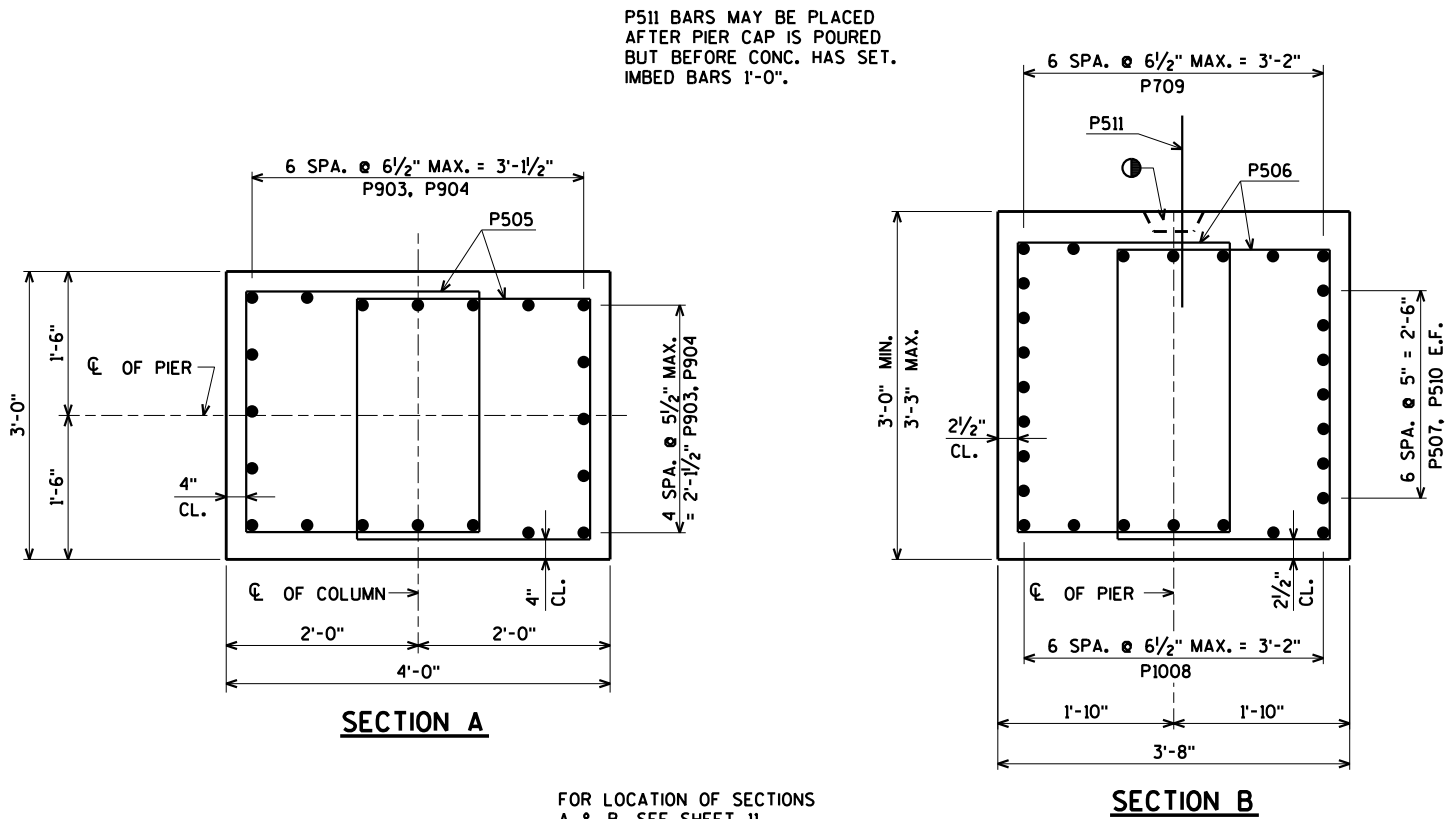
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STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-55-259			
DRAWN BY		CLS	PLANS CK'D. CJM
PIER		SHEET 11 OF 21 105	

[illegible]

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



FOR PILE SPLICE DETAIL SEE SHEET 2.
E.F. DENOTES EACH FACE

● KEYED CONST. JOINT - FORMED BY A SURFACED BEVELED 2" x 6".

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STRUCTURE B-55-259			
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PIER DETAILS		SHEET 12 OF 21 106	

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STATE PROJECT NUMBER

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GIRDER NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 8" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 8" OF THE TOP FLANGE.

DO NOT APPLY CONCRETE SEALER TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

STRANDS SHALL BE FLUSH WITH THE END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, ENDS OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, GRADE 2, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOST CURING HAS CEASED AND PRIOR TO APPLICATION OF THE SEALER.

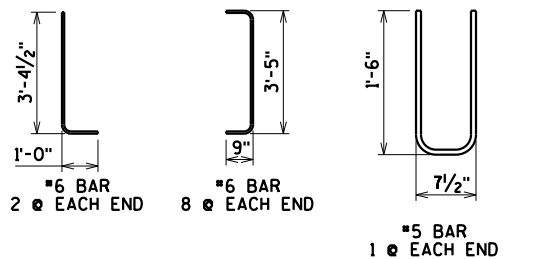
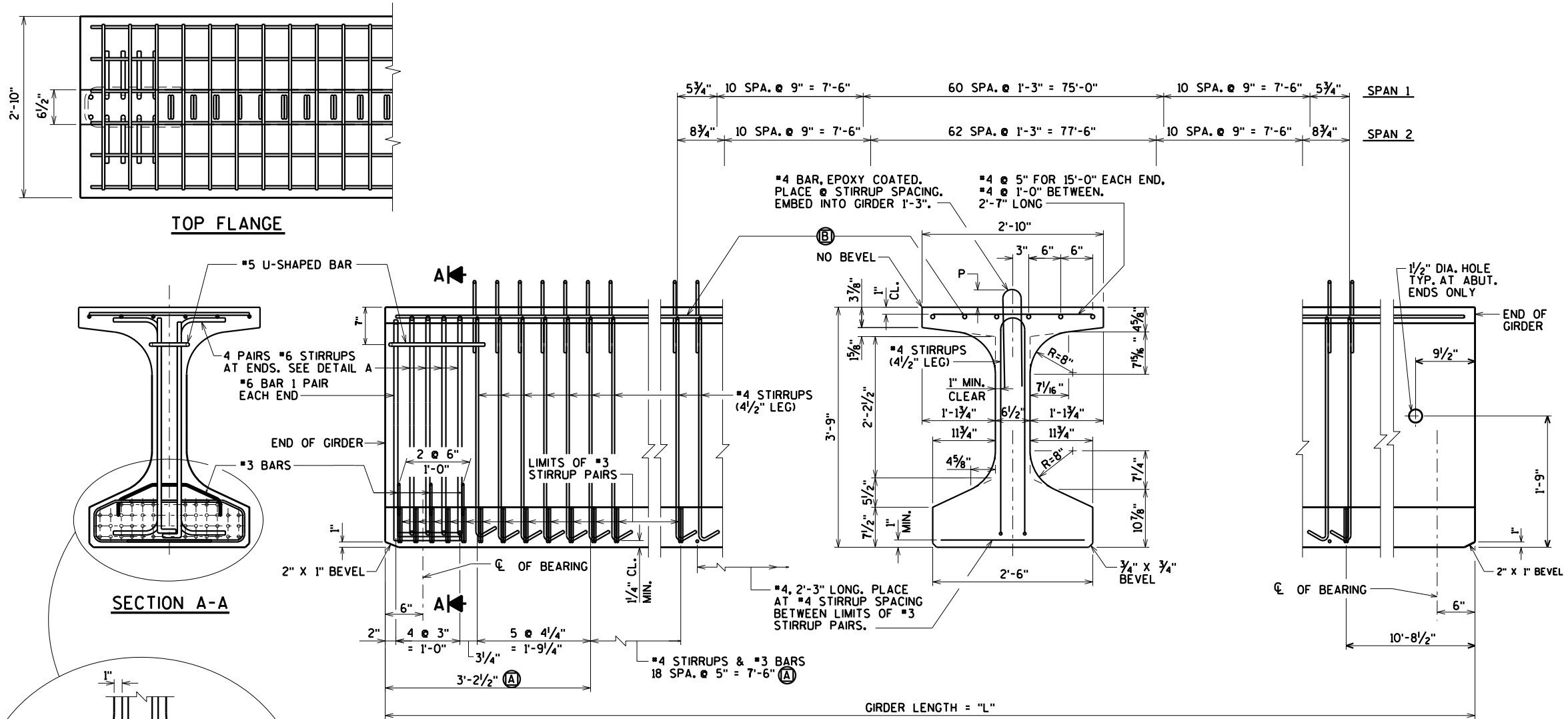
ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT.

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION.

PRESTRESSING STRANDS SHALL BE 0.6" ϕ -7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 psi.

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM DETAILS" SHEET.



#4 BAR, EPOXY COATED. PLACE ϕ STIRRUP SPACING REQUIRED FOR NON WWF STIRRUPS. EMBED INTO GIRDER 1'-3".

HORIZ. WIRES SHALL BE LOCATED IN TOP AND BOT. FLANGES AND NOT IN THE WEB.

AREA OF HORIZ. WIRE SHALL BE $\geq$ 40% OF VERT. WIRE AREA (ASTM A497)

D18 MIN. VERTICAL WIRE (DEFORMED)

1" MIN. CLEARANCE TO VERTICAL WIRE

2" MIN. TYP.

SECTION THRU GIRDER

SHOWING WELDED WIRE FABRIC (WWF) STIRRUPS
ASTM A497 (FY = 70 KSI)

* MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.)										CONC. STRGTH. f'c (p.s.i.)	"P" 1ST 1/3 OF GIRDER	"P" MID 1/3 OF GIRDER	"P" END 1/3 OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN						~~UNDRAPED PATTERN~~	
			1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	TOTAL NO. OF STRANDS						f'ci (P.S.I.) *	(IN.)				TOTAL NO. OF STRANDS	f'ci (P.S.I.) *	
																			"A"	"B" MIN.	"B" MAX.	"C"			
1	ALL	112'-4 1/2"	0.7	1.3	1.8	2.1	2.2	2.1	1.8	1.3	0.7	8000	7"	7"	7"	0.60	34	6400	39	13.5	16.5	5			
2	ALL	115'-4 1/2"	0.7	1.3	1.8		2.3	2.1	1.8		0.7	8000	7"	7"	7"	0.60	34	6400	39	13.5	16.5	5			

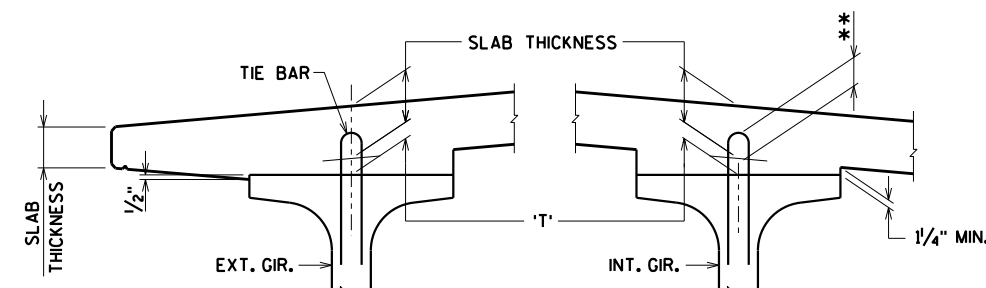
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STRUCTURE B-55-259			
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45W" PRESTRESSED GIRDER DETAILS		SHEET 13 OF 21 107	

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SLAB HAUNCH DETAIL

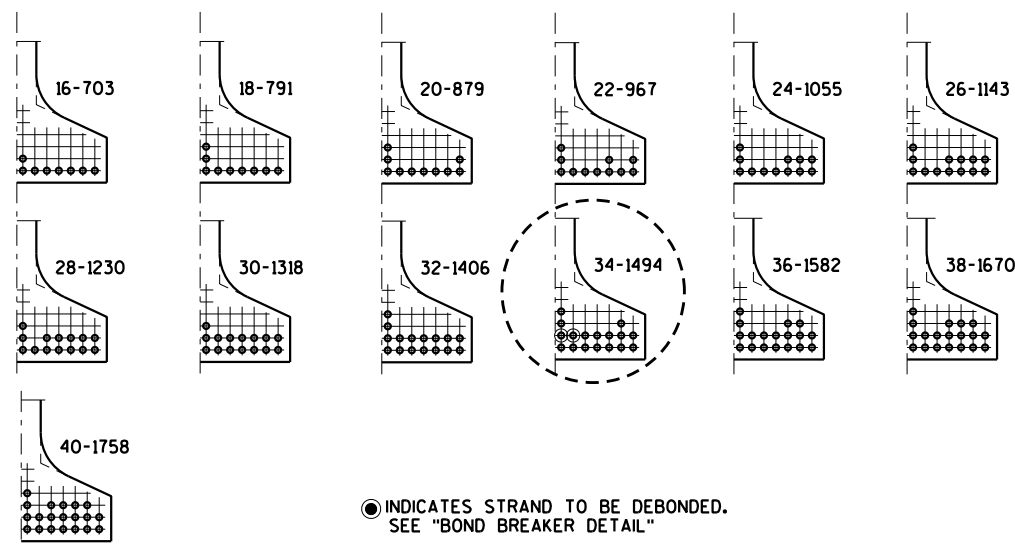
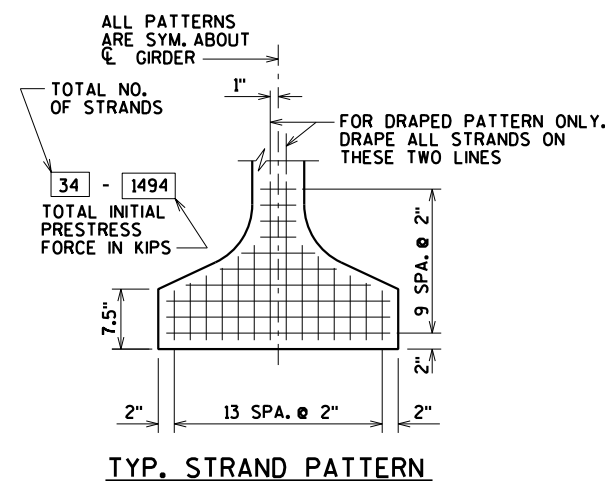
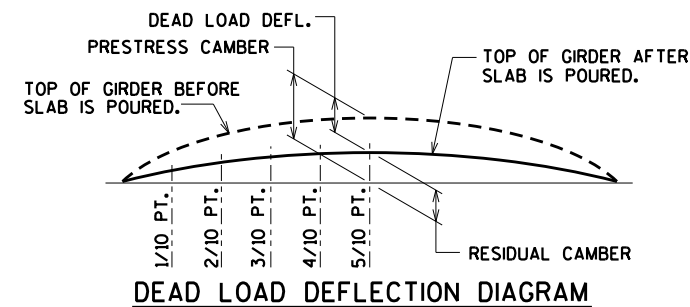
IF 1/4" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN SLAB THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN 1/2" OR.

** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT $\bar{C}$ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

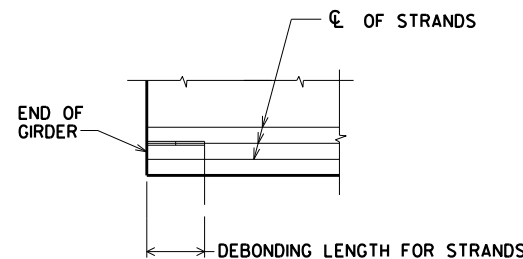
$$\begin{aligned} & \text{TOP OF DECK ELEV. AT FINAL GRADE} \\ & - \text{TOP OF GIRDER ELEVATION} \\ & + \text{DEAD LOAD DEFLECTION} \\ & - \text{SLAB THICKNESS} \\ & = \text{HAUNCH HEIGHT 'T'} \end{aligned}$$

NOTE: AN AVERAGE HAUNCH ('T') OF 3" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".



ARRANGEMENT AT $\bar{C}$ SPAN - FOR GIRDERS WITH DRAPED STRANDS
0.6" ϕ STRANDS

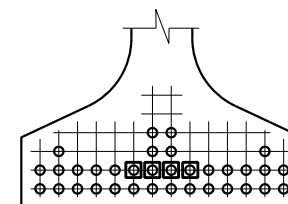
● INDICATES STRAND TO BE DEBONDED. SEE "BOND BREAKER DETAIL"



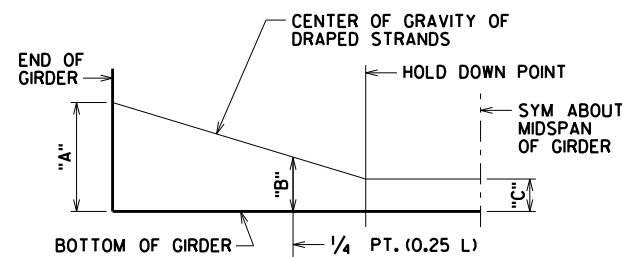
BOND BREAKER DETAIL

SHOWING LENGTHS OF DEBONDING FROM END OF GIRDER.

SYM.	HEIGHT	NO. OF STRANDS	DEBOND LENGTH
□	4"	4	5'



DEBONDING DETAIL - BOTH SPANS



DRAPED STRAND PROFILE

THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN

SPAN	CAMBER (IN.)
1	3.5
2	3.5

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T'. USE ACTUAL GIRDER SHOTS. THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

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STRUCTURE B-55-259			
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85W" PRESTRESSED GIRDER DETAILS		SHEET 14 OF 21 108	

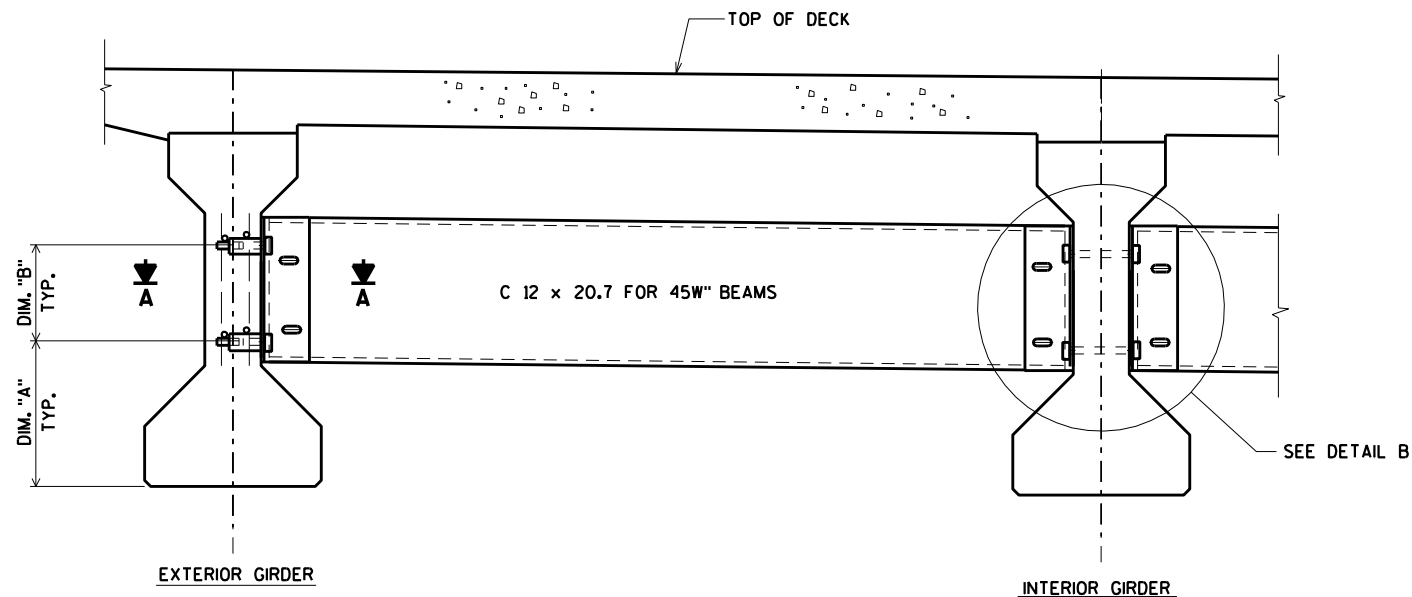
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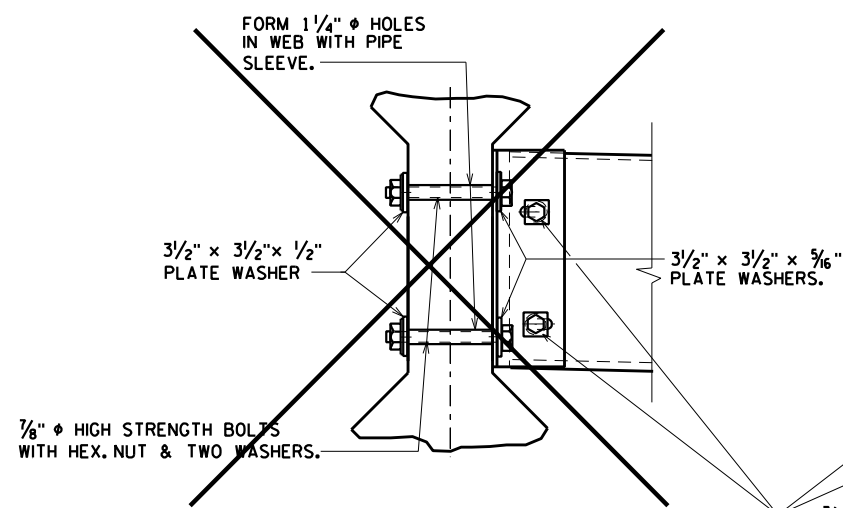
1020-01-83

TABLE

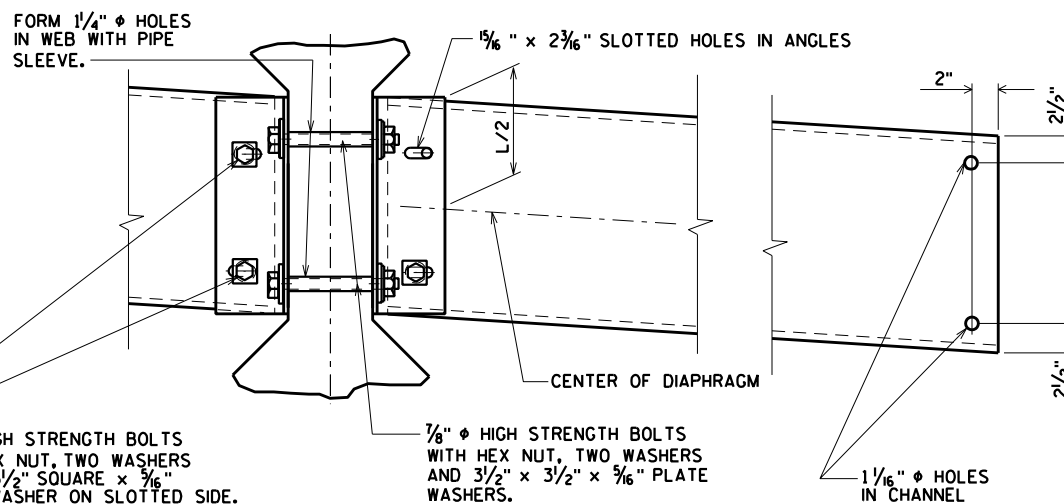
GIRDER HEIGHT	DIM. "A"	DIM. "B"	DIM. "L"	*DIM. "X"
45W"	1'-9 1/8"	8 7/8"	1'-0 1/2"	2 3/4"



PART TRANSVERSE SECTION AT DIAPHRAGM

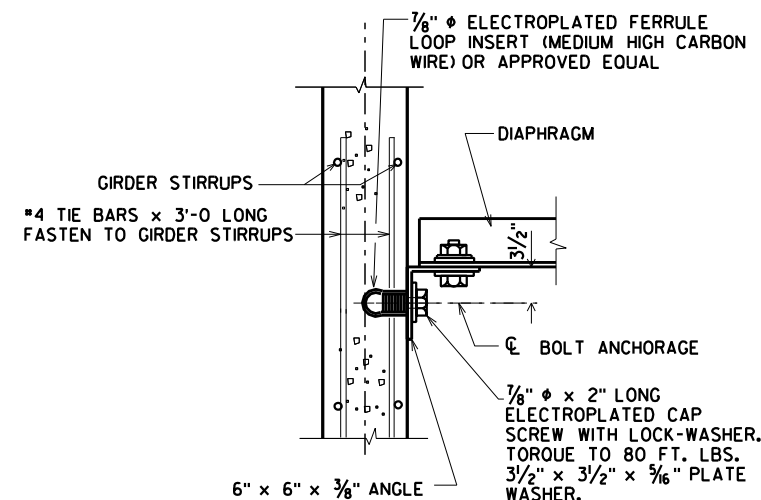


(FOR STAGGERED DIAPHRAGM)

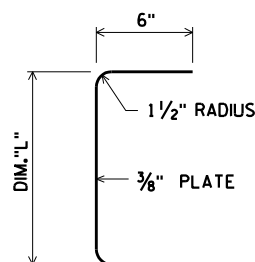


(FOR CONTINUOUS LINE OF DIAPHRAGMS)

DETAIL B

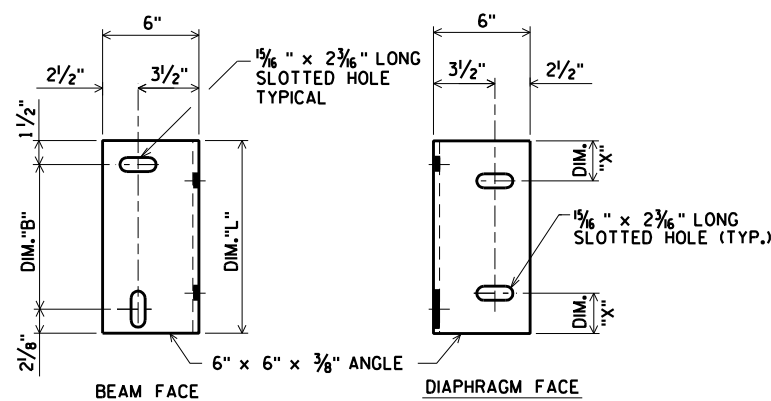


SECT. A-A
(FOR EXTERIOR ATTACHMENT)



SECTION THRU ALTERNATE DIAPHRAGM

*DIM. "X" = 2 1/2" FOR ALTERNATE PLATE DIAPHRAGM



DIAPHRAGM SUPPORT

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STRUCTURE B-55-259			
DRAWN BY		CLS	PLANS CK'D. CJM
INTERM. STEEL DIAPHS. DETAILS		SHEET 15 OF 21 109	

BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED	BAR SERIES	68,410" COATED
							LOCATION
S401	X	30	3-6	X			DIAPH. @ ABUT. VERT. @ NOTCH
S402	X	20	2-2				DIAPH. @ ABUT. HORIZ. @ NOTCH
S503	X	48	11-10	X			DIAPH. @ ABUT. VERT.
S504	X	24	10-0	X			DIAPH. @ ABUT. VERT.
S505	X	48	5-7	X			DIAPH. @ ABUT. VERT.
S606	X	12	34-2				DIAPH. @ ABUT. HORIZ.
S607	X	80	3-8				DIAPH. @ ABUT. HORIZ. BETW. GDRS.
S608	X	4	0-8				DIAPH. @ ABUT. HORIZ. @ EXT. GDRS.
S609	X	12	1-7				DIAPH. @ ABUT. HORIZ. @ EXT. GDRS.
S510	X	24	6-0				DIAPH. @ ABUT. HORIZ. THRU GDRS.
S411	X	847	34-2				SLAB TRANS. TOP & BOT.
S412	X	282	39-8				SLAB LONG. BOT.
S413	X	62	40-3				SLAB LONG. TOP SPAN 1
S414	X	62	41-9				SLAB LONG. TOP SPAN 2
S515	X	15	11-10	X			DIAPH. @ PIER VERT.
S516	X	20	8-8	X			DIAPH. @ PIER VERT.
S417	X	60	3-3				DIAPH. @ PIER HORIZ.
S1118	X	60	51-7				SLAB LONG. TOP @ PIER
S519	X	850	5-3	X			SLAB TRANS. TOP @ EDGES
S520	X	638	4-5	X			SLAB @ PARAPET VERT.
S521	X	638	5-0	X			PARAPET VERT.
S522	X	48	2-9	X			SLAB @ PARAPET VERT.
S523	X	64	4-4	X			SLAB @ PARAPET VERT.
S524	X	44	4-9	X			PARAPET VERT.
S525	X	24	4-10	X			PARAPET VERT.
S526	X	4	58-8	X			PARAPET HORIZ.
S527	X	44	58-8				PARAPET HORIZ.
S528	X	4	4-3	X			SLAB @ PARAPET VERT. @ ENDS OF DECK
S429	X	90	34-2				SLAB LONG. TOP SPAN 1
S430	X	90	35-2				SLAB LONG. TOP SPAN 2

TYPICAL CROSS SECTION THRU DECK
(LOOKING NORTH)

ORIGINAL PLANS PREPARED BY

AYRES
ASSOCIATES

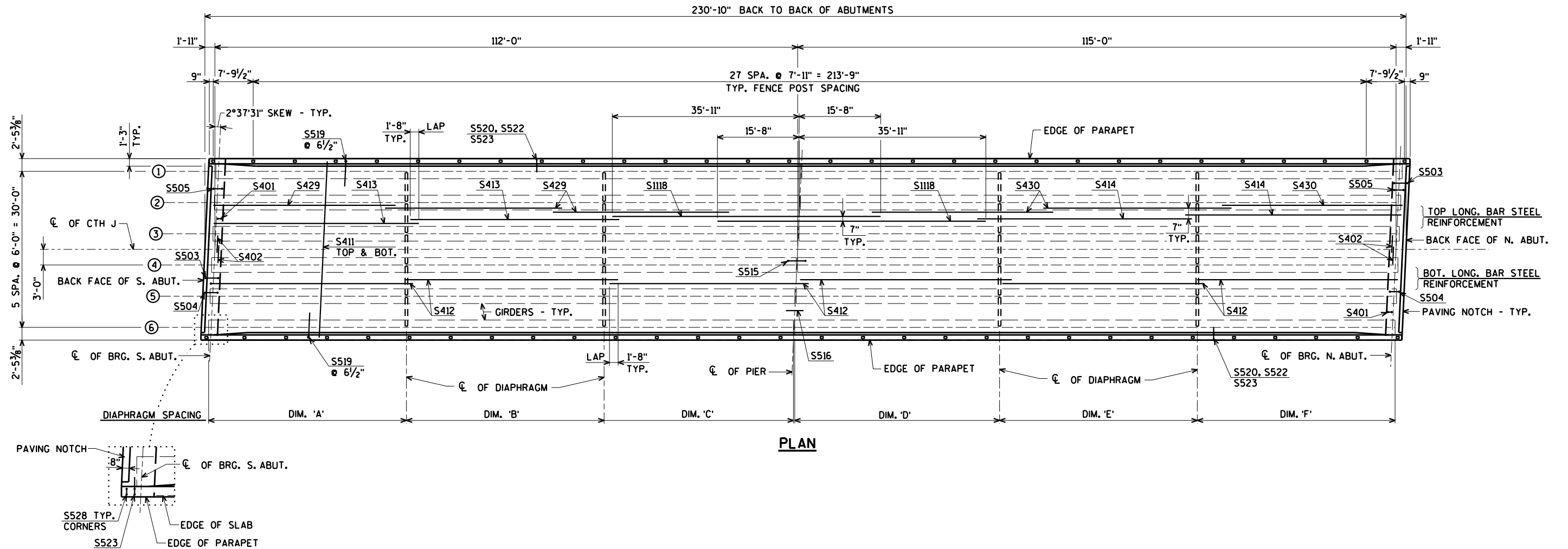
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NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-55-259			
DRAWN BY		CLS	PLANS CK'D, CJK
SUPERSTRUCTURE		SHEET 16 OF 20 110	

\$PRNAME\$
U:\42-0886.00 - St. Croix Co, 194 Overpasses x3\42-0886.03 B-55-41 CTH J\BRIDGE\42088603 sup.dgn

STATE PROJECT NUMBER

1020-01-83



TOP OF DECK ELEVATIONS

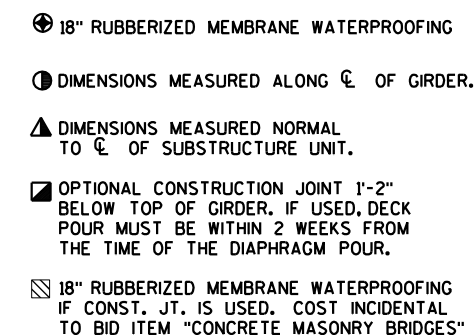
	CL OF BRG. S. ABUT.	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	CL PIER	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	CL OF BRG. N. ABUT.
W. EDGE OF DECK	1069.04	1069.28	1069.51	1069.73	1069.94	1070.14	1070.33	1070.52	1070.69	1070.86	1071.01	1071.16	1071.30	1071.43	1071.55	1071.67	1071.77	1071.86	1071.94	1072.01	1072.08
GIRDER 1	1069.06	1069.30	1069.53	1069.75	1069.96	1070.16	1070.35	1070.54	1070.71	1070.88	1071.03	1071.18	1071.32	1071.45	1071.57	1071.68	1071.79	1071.88	1071.96	1072.03	1072.10
GIRDER 2	1069.17	1069.41	1069.64	1069.86	1070.07	1070.28	1070.47	1070.65	1070.83	1070.99	1071.15	1071.30	1071.44	1071.57	1071.69	1071.80	1071.90	1072.00	1072.08	1072.15	1072.21
GIRDER 3	1069.29	1069.53	1069.76	1069.98	1070.19	1070.39	1070.58	1070.77	1070.94	1071.11	1071.26	1071.41	1071.55	1071.69	1071.81	1071.92	1072.02	1072.11	1072.20	1072.27	1072.33
CL CTH J	1069.34	1069.58	1069.81	1070.03	1070.25	1070.45	1070.64	1070.83	1071.00	1071.17	1071.32	1071.47	1071.61	1071.74	1071.87	1071.98	1072.08	1072.17	1072.26	1072.33	1072.39
GIRDER 4	1069.28	1069.52	1069.75	1069.97	1070.18	1070.39	1070.58	1070.76	1070.94	1071.10	1071.26	1071.41	1071.55	1071.68	1071.80	1071.92	1072.02	1072.11	1072.19	1072.27	1072.33
GIRDER 5	1069.16	1069.40	1069.63	1069.85	1070.06	1070.26	1070.45	1070.64	1070.81	1070.98	1071.14	1071.29	1071.43	1071.56	1071.68	1071.79	1071.90	1071.99	1072.07	1072.15	1072.21
GIRDER 6	1069.03	1069.27	1069.50	1069.72	1069.93	1070.14	1070.33	1070.51	1070.69	1070.86	1071.01	1071.16	1071.31	1071.44	1071.56	1071.67	1071.77	1071.87	1071.95	1072.02	1072.09
E. EDGE OF DECK	1069.01	1069.25	1069.48	1069.70	1069.91	1070.12	1070.31	1070.49	1070.67	1070.83	1070.99	1071.14	1071.28	1071.42	1071.54	1071.65	1071.75	1071.85	1071.93	1072.00	1072.07

TABLE OF DIAPHRAGM DIMENSIONS

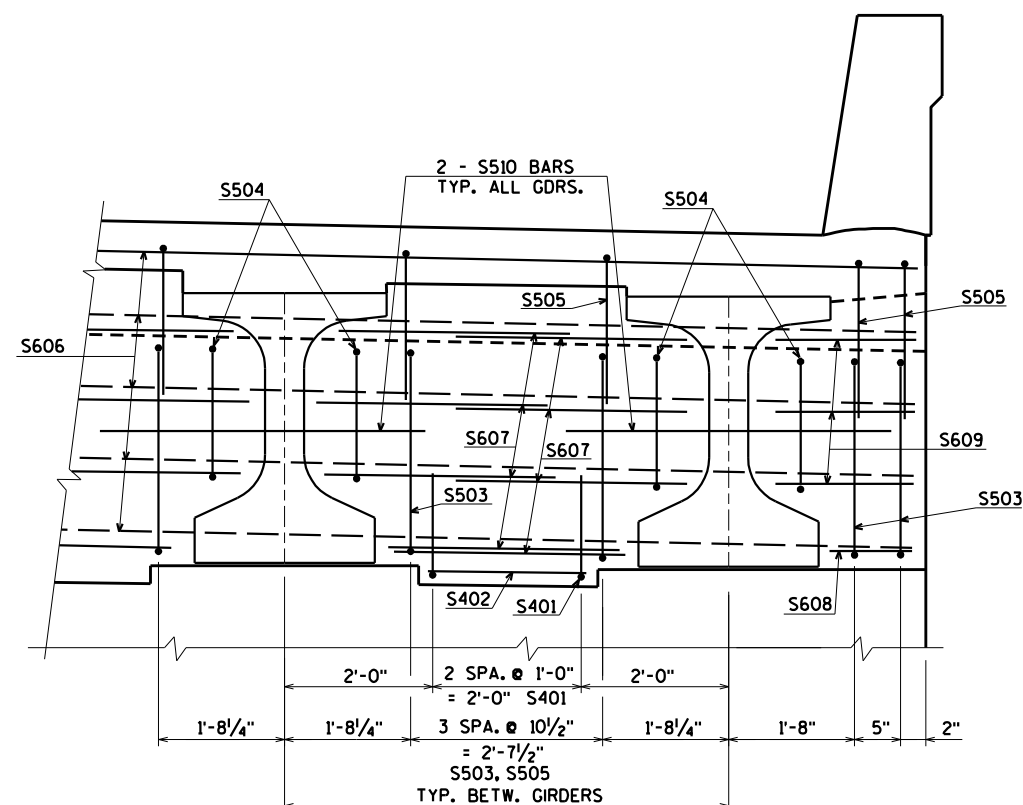
GIRDER	SPAN 1			SPAN 2		
	DIM. 'A'	DIM. 'B'	DIM. 'C'	DIM. 'D'	DIM. 'E'	DIM. 'F'
1	36'-9 1/4"	37'-5 1/2"	38'-1 5/8"	37'-9 1/4"	38'-5 1/2"	39'-1 3/4"
2	37'-0 5/8"	37'-5 1/2"	37'-10 1/2"	38'-0 5/8"	38'-5 1/2"	38'-10 1/2"
3	37'-2 7/8"	37'-5 1/2"	37'-7 1/4"	38'-3 7/8"	38'-5 1/2"	38'-7 1/4"
4	37'-7 1/4"	37'-5 1/2"	37'-2 7/8"	38'-7 1/4"	38'-5 1/2"	38'-3 7/8"
5	37'-10 1/2"	37'-5 1/2"	37'-0 5/8"	38'-10 1/2"	38'-5 1/2"	38'-0 5/8"
6	38'-1 5/8"	37'-5 1/2"	36'-9 1/4"	39'-1 3/4"	38'-5 1/2"	37'-9 1/4"

ORIGINAL PLANS PREPARED BY
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NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-55-259			
DRAWN BY		CLS	PLANS CK'D. CJM
SUPERSTRUCTURE PLAN		SHEET 17 OF 21 111	



PART LONGITUDINAL SECTION



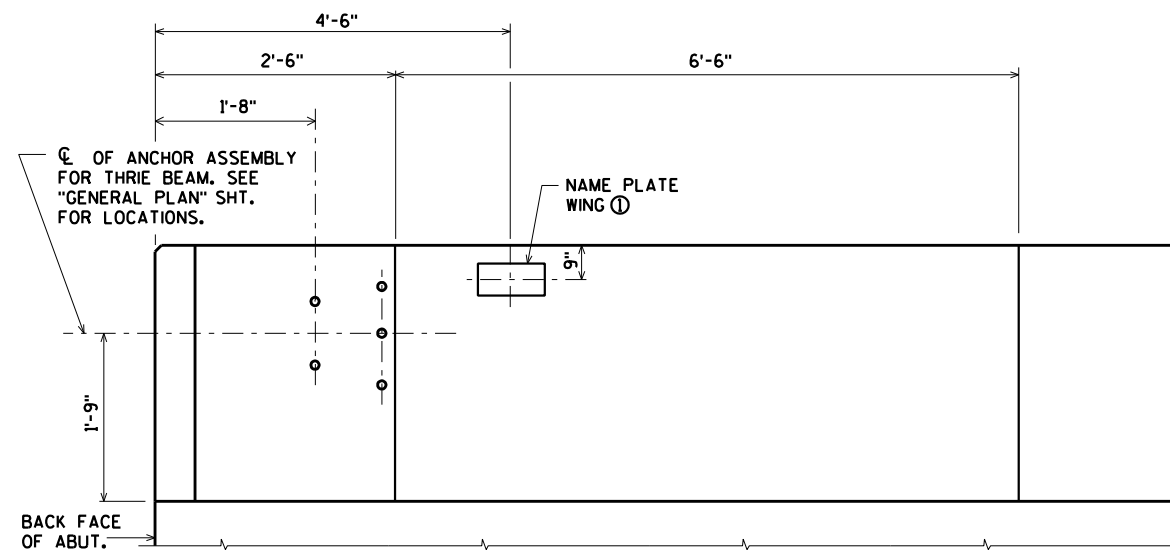
PART TRANSVERSE SECTION AT ABUTMENT DIAPHRAGM

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-55-259			
DRAWN BY		CLS	PLANS CK'D. CJM
SUPERSTRUCTURE DETAILS		SHEET 18 OF 20 112	

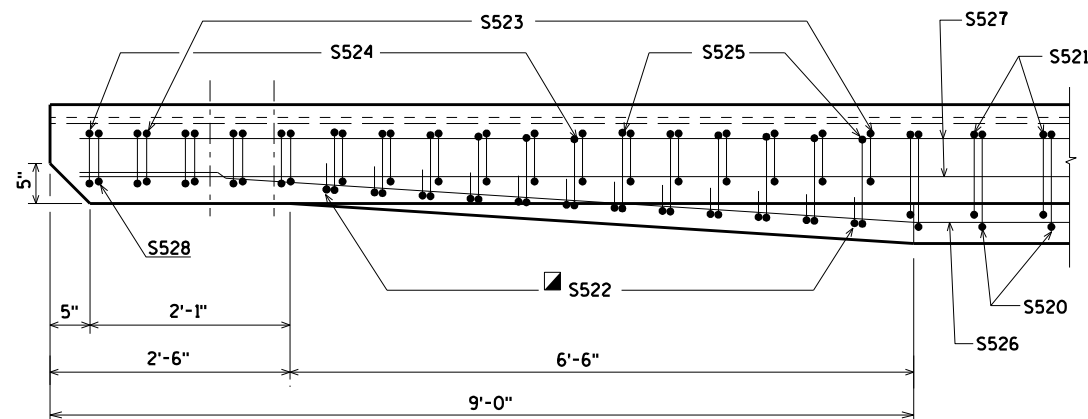
\$PRNAME\$
U:\42-0886,00 - St. Croix Co, 194 Overpasses x3\42-0886,03 B-55-41 CTH J#BRIDGE#42088603 32ssPARA.dgn

STATE PROJECT NUMBER

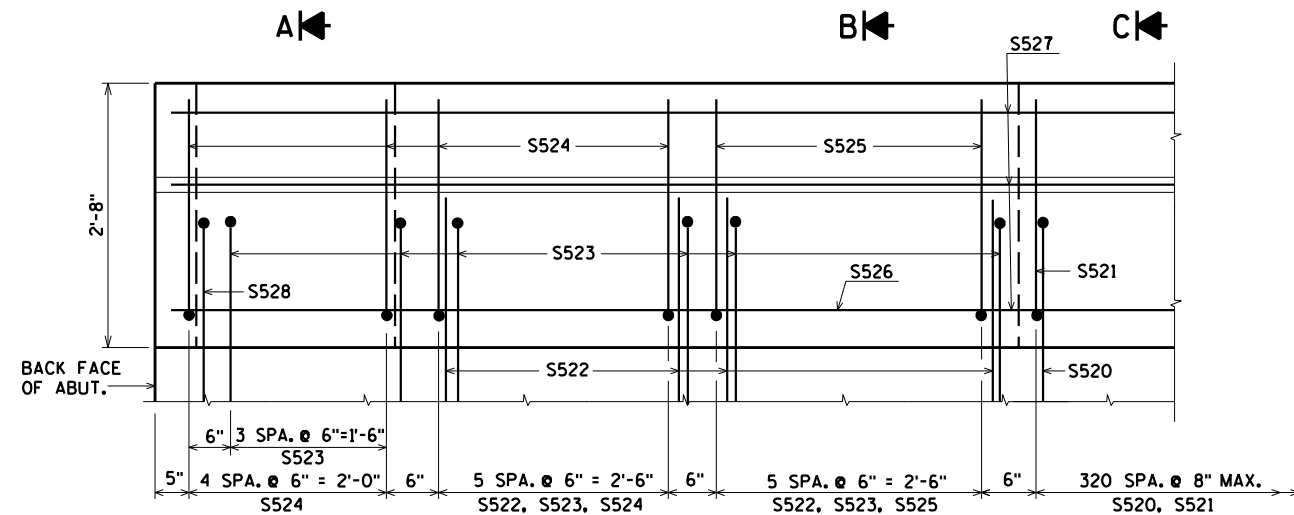
1020-01-83



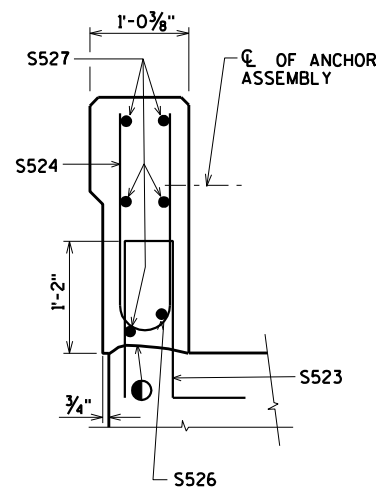
INSIDE ELEVATION



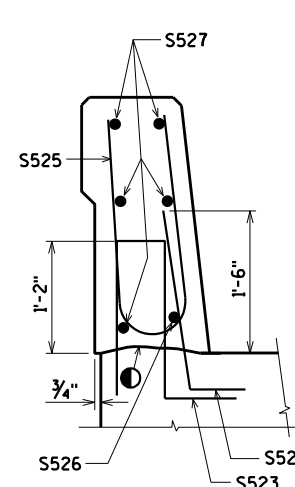
PLAN



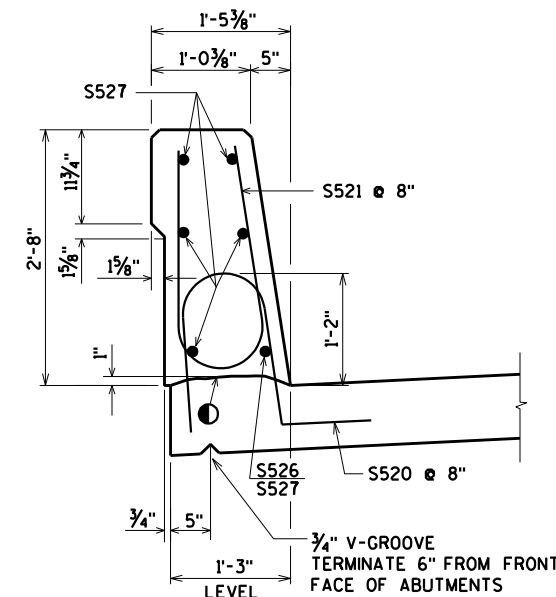
OUTSIDE ELEVATION



SECTION A



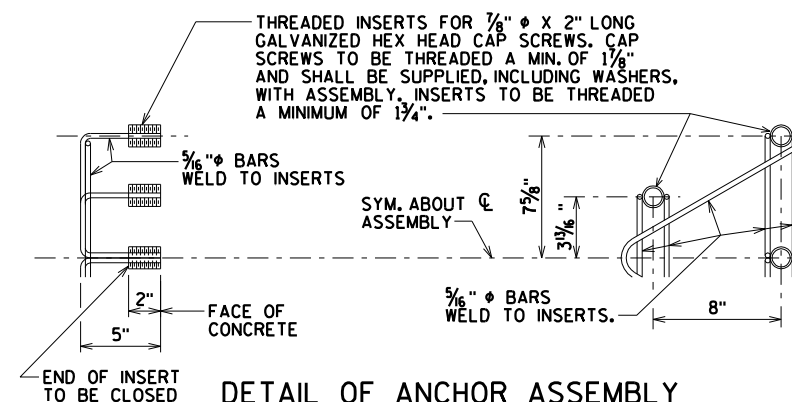
SECTION B



SECTION THRU PARAPET ON BRIDGE
SECTION C

CONST. JOINT - STRIKE OFF AS SHOWN.

S522 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE S522 BARS CORRECTLY ALONG TRANSITION OF PARAPET.



DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

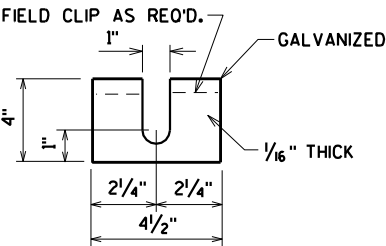
ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-55-259			
DRAWN BY		CLS	PLANS CK'D. CJM
SINGLE SLOPE PARAPET 32SS			SHEET 19 OF 21 113

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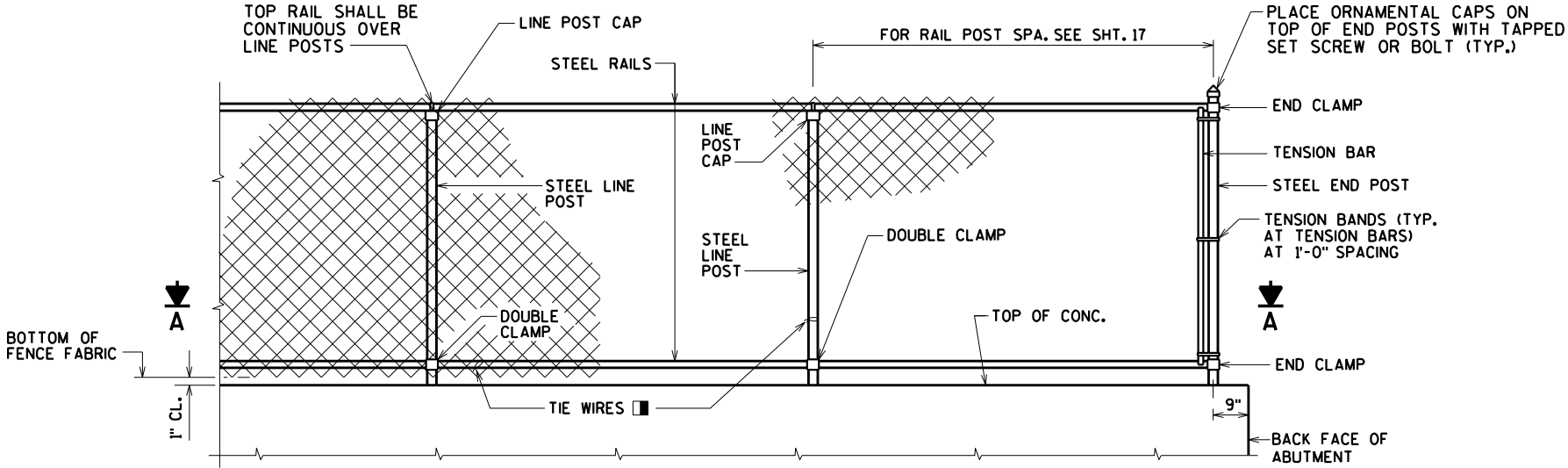
FENCE MEMBER
SIZE & WEIGHT

STEEL FENCE MEMBER	OUTSIDE DIAMETER (INCHES)	WEIGHT (LB/FT)
RAILS	1.660	2.27
END POST	2.875	5.80
OVERHANG POST	2.875	5.80
LINE POST	2.375	3.65
POST SLEEVE	4.000	9.12



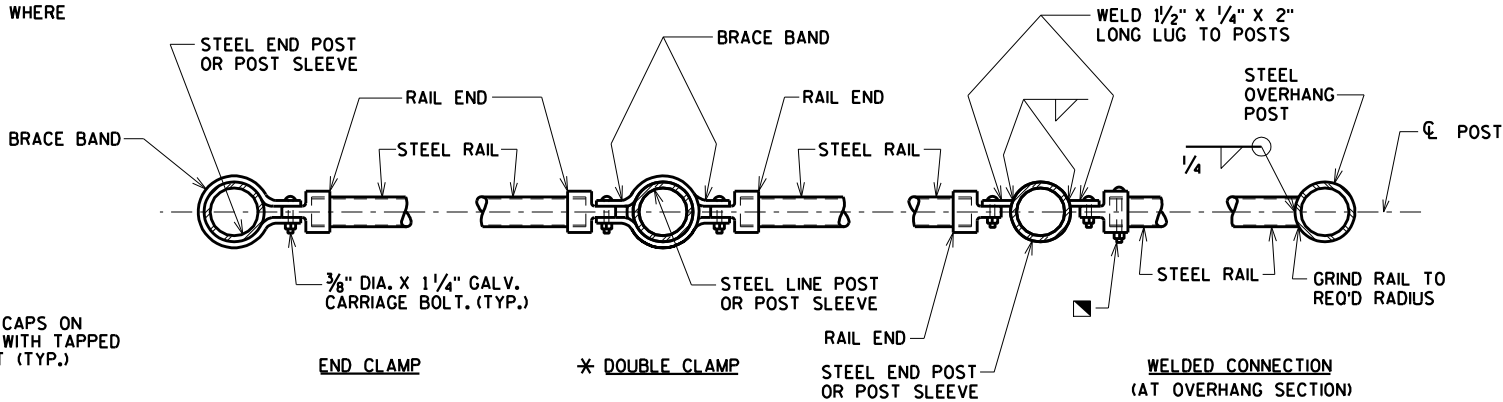
POST SHIM DETAILS

SHIMS REQUIRED ONLY WHEN END POSTS AND LINE POSTS ARE WELDED TO BASE PLATES. PROVIDE 4 SHIMS PER POST. USE WHERE REQUIRED FOR ALIGNMENT.



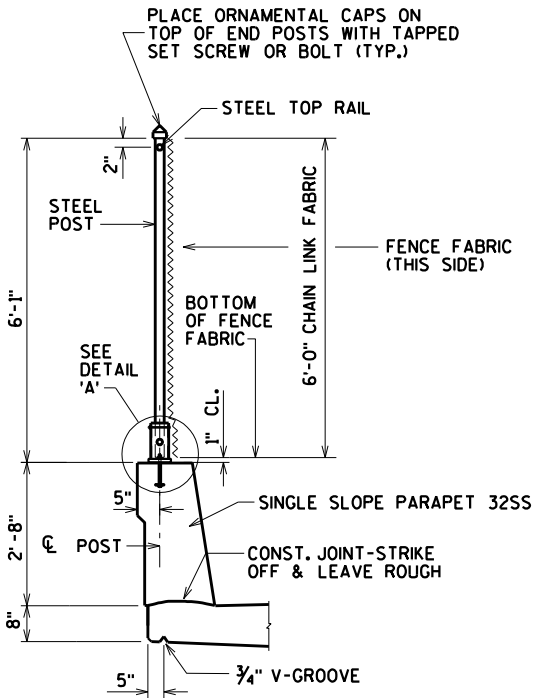
FENCE PART ELEVATION

VIEWING FABRIC SIDE

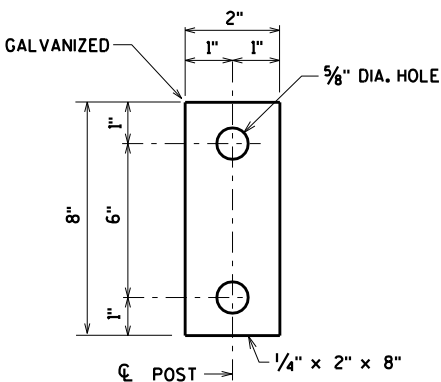


SECTION A-A

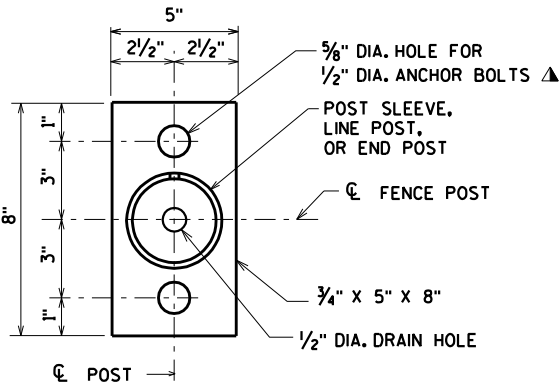
NOTE: PLACE ALL BOLT HEADS ON SIDE OF FENCE ADJACENT TO PEDESTRIANS



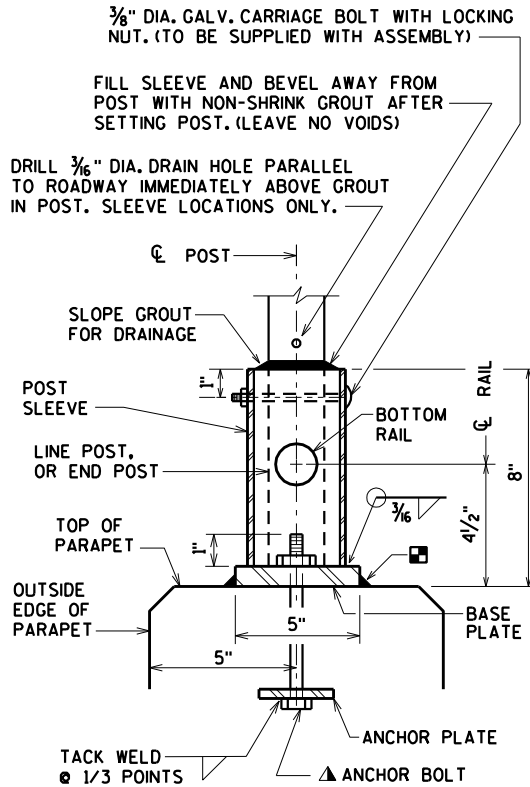
SECTION THRU FENCE



ANCHOR PLATE

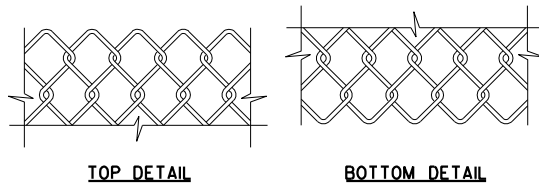


BASE PLATE



DETAIL 'A'

UNIT SHALL BE GALVANIZED AFTER FABRICATION
NOTE: IN LIEU OF USING THE POST SLEEVE, THE FENCE POST MAY BE WELDED TO THE BASE PLATE.



FENCE FABRIC

FENCE FABRIC WOVEN OF 9-GAGE WIRE IN 2" DIAMOND PATTERN MESH WITH BOTH THE TOP AND BOTTOM SELVAGES KNUCKLED.

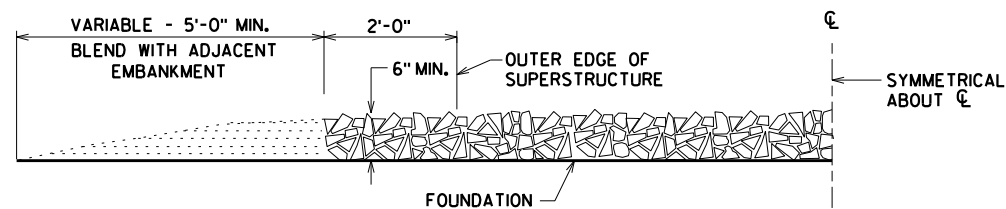
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-55-259			
DRAWN BY		CLS	PLANS CK'D. CJM
FENCING DETAILS			SHEET 20 OF 21 114

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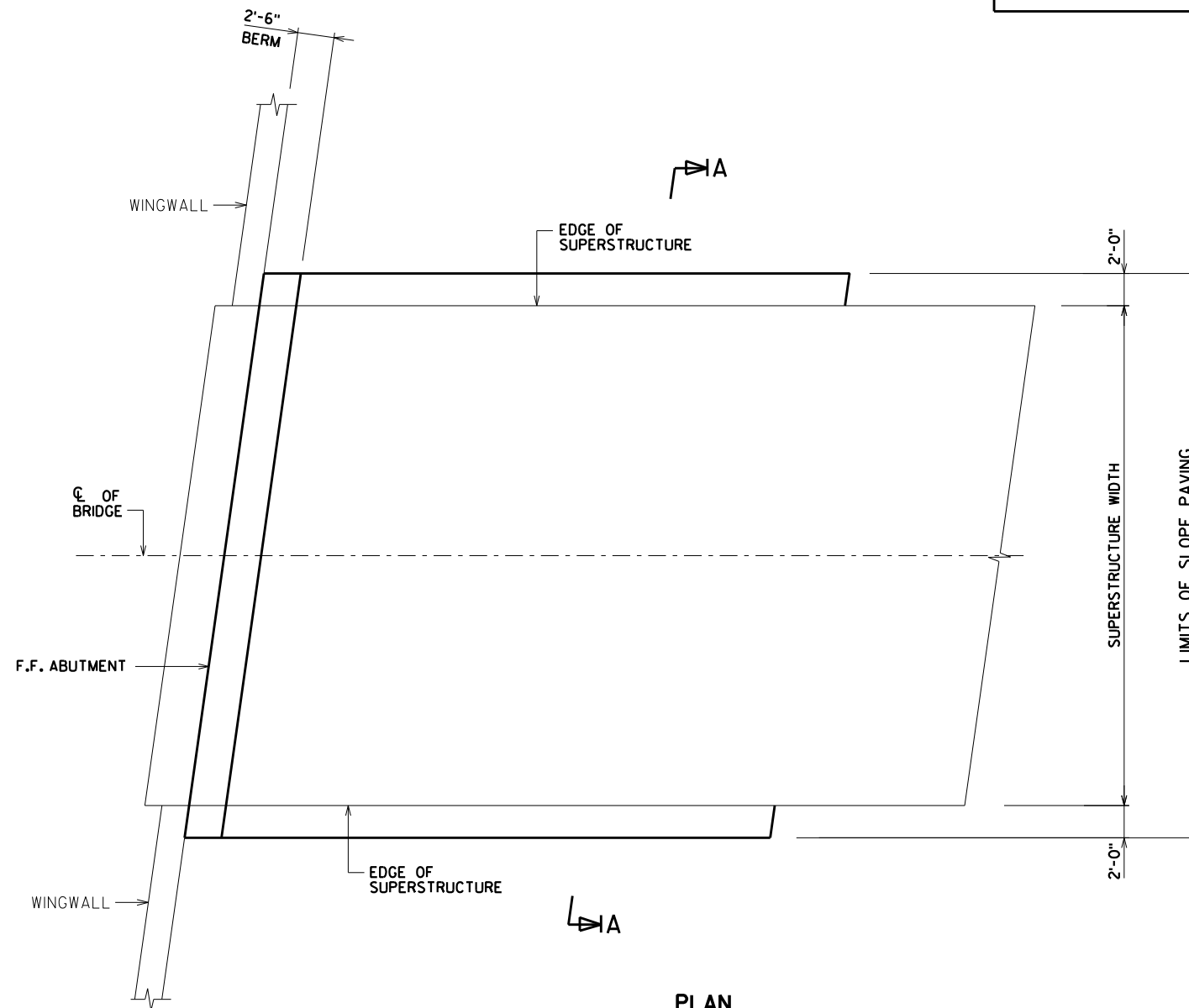
\$PRNAME\$
U:\42-0886.00 - St. Croix Co. 194 Overpasses x3\42-0886.03 B-55-41 CTH J\BRIDGE\42088603 slopePAV.dgn

STATE PROJECT NUMBER

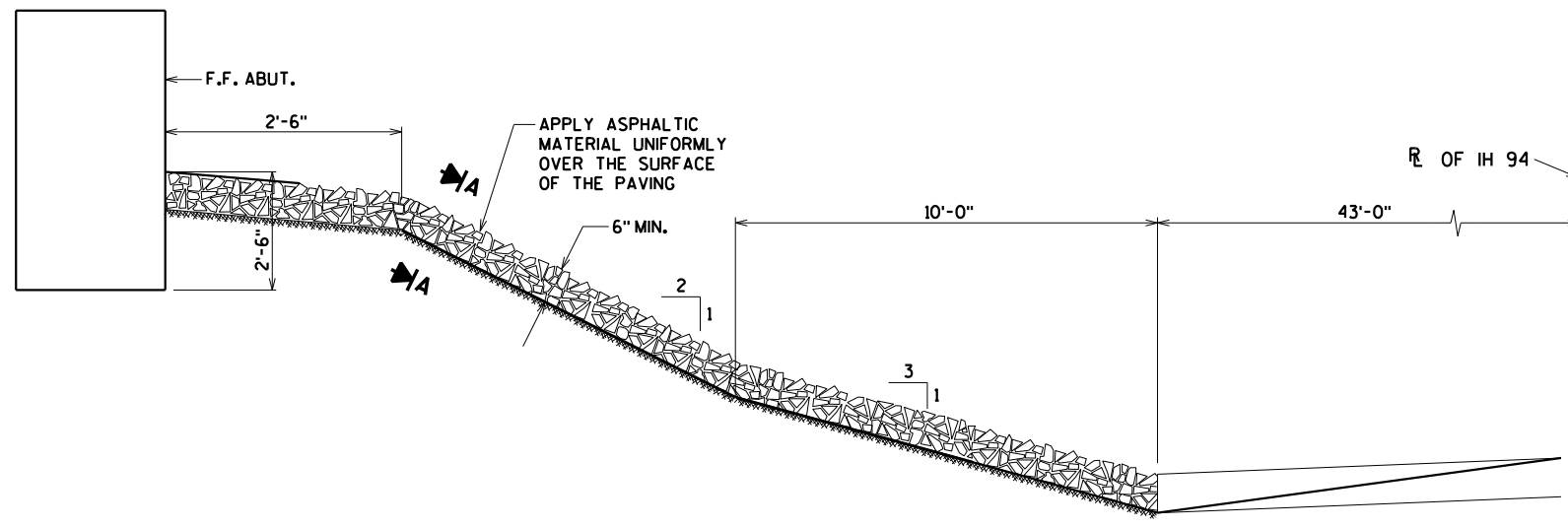
1020-01-83



SECTION A



PLAN



STANDARD CROSS SECTION
ROUND STONE WILL NOT BE ACCEPTED

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS.

WOOD FORMS MAY BE LEFT IN PLACE WHEN OF A QUALITY ACCEPTABLE TO THE ENGINEER.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-55-259			
DRAWN BY CLS		PLANS CK'D. CJM	
SLOPE PAVING CRUSHED AGGREGATE		SHEET 21 OF 21 115	

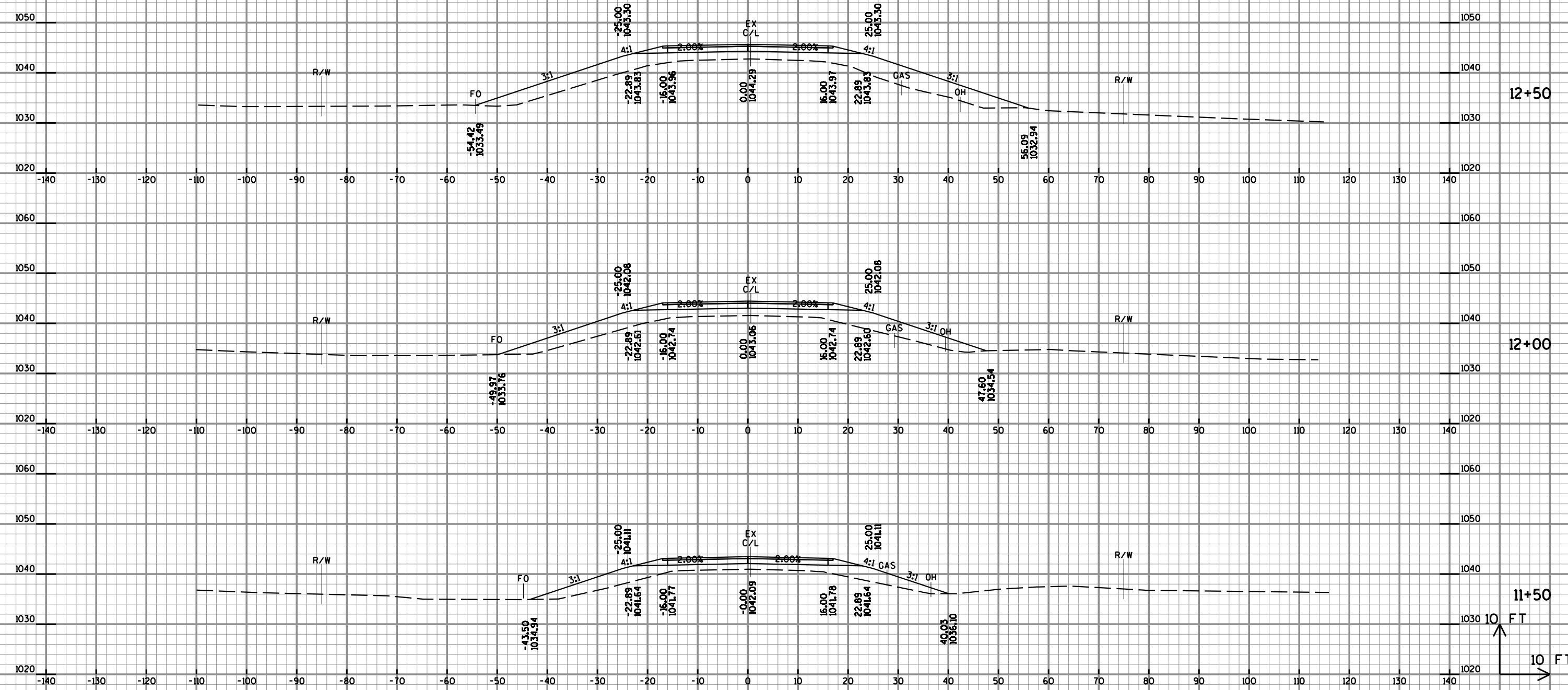
ORIGINAL PLANS PREPARED BY
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Eau Claire, WI 54701
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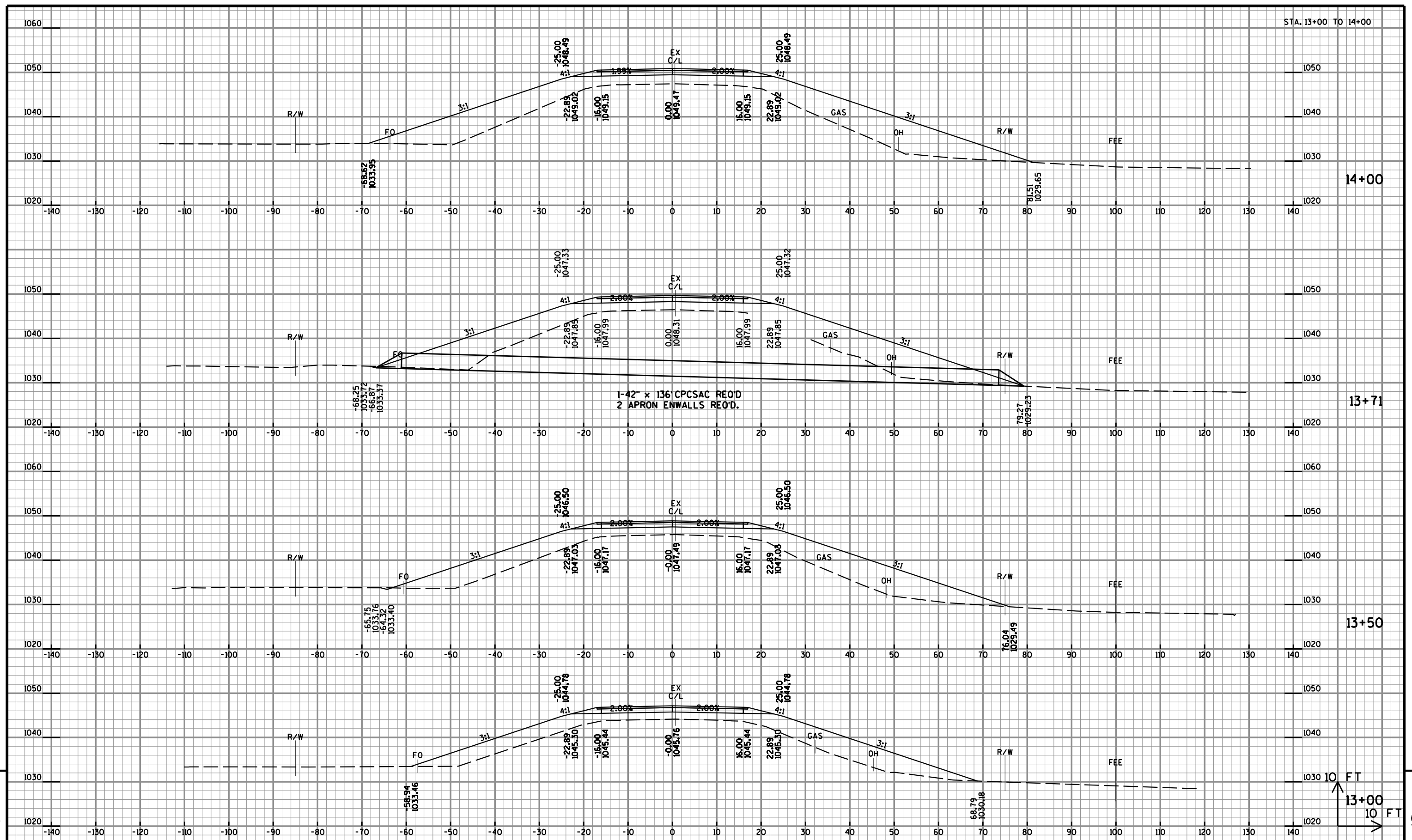
EARTHWORK SUMMARY (CATEGORY 0010)								
		AREA		INCREMENTAL VOLUME		CUMULATIVE VOLUME		
						EXPANDED		
						CUT (1)	FILL (4)	
ROADWAY	STATION	CUT SF	FILL SF	CUT (1) CY	FILL (3) CY	1.00 CY	1.30 CY	MASS ORDINATE ±(5) CY
CTH J	9+50	44	0					
	10+00	31	16	69	15	69	19	50
	10+50	9	30	37	42	106	74	32
	11+00	10	59	17	82	123	181	-58
	11+08	19	61	4	106	128	319	-191
	11+50	0	141	15	157	143	523	-380
	12+00	0	210	0	325	143	946	-803
	12+50	0	267	0	442	143	1,520	-1,378
	13+00	0	361	0	582	143	2,277	-2,134
	13+50	0	485	0	783	143	3,295	-3,152
	13+71	0	570	0	410	143	3,828	-3,685
	14+00	0	612	0	634	144	4,653	-4,509
	14+50	0	737	0	1,249	144	6,276	-6,132
	15+00	0	896	0	1,512	144	8,241	-8,097
	15+50	1	1,096	1	1,844	144	10,639	-10,495
	15+96	0	1,263	1	2,010	145	13,252	-13,107
	15+98	0	1,263	0	94	145	13,373	-13,229
	16+00	0	1,257	0	93	145	13,495	-13,350
	16+21	0	1,124	0	926	145	14,698	-14,554
	16+23	0	1,077	0	82	145	14,804	-14,660
	16+46	0	756	0	781	145	15,819	-15,674
	16+48	0	745	0	56	145	15,892	-15,747
	16+50	0	743	0	55	145	15,963	-15,818
	17+00	0	771	0	1,402	145	17,786	-17,641
	17+50	0	845	0	1,497	145	19,731	-19,587
	18+00	0	808	0	1,531	145	21,722	-21,577
	18+50	0	739	0	1,433	145	23,584	-23,439
	18+86.40	0	739	0	996	145	24,880	-24,735
STRUCTURE (B-55-0259)								
	21+15.90	0	489	0	617	145	25,682	-25,537
	21+50	0	489	0	939	145	26,903	-26,758
	22+00	0	489	0	982	145	28,179	-28,035
	22+50	0	525	0	961	145	29,428	-29,284
	23+00	0	535	0	563	145	30,160	-30,016
	23+31	0	502	0	18	145	30,184	-30,039
	23+32	0	479	0	358	145	30,649	-30,504
	23+50	0	484	0	134	145	30,824	-30,679
	23+56	0	591	0	23	145	30,854	-30,709
	23+57	0	618	0	559	145	31,581	-31,436
	23+81	0	640	0	23	145	31,611	-31,466
	23+82	0	619	0	374	145	32,096	-31,951
	24+00	0	613	0	727	145	33,041	-32,896
	24+50	0	507	6	228	151	33,337	-33,187
	24+76	0	278	7	159	157	33,544	-33,386
	25+00	12	195	10	265	167	33,888	-33,721
	25+50	4	162	9	194	176	34,140	-33,964
	26+00	7	124	3	125	179	34,303	-34,124
	26+50	3	86	1	77	180	34,403	-34,224
	27+00	0	50	7	69	187	34,493	-34,306
	27+50	1	34	10	36	196	34,540	-34,344
	27+74	7	41	15	36	212	34,586	-34,375
	28+00	15	41	42	55	253	34,657	-34,404
	28+50	17	34	73	26	326	34,692	-34,365
	28+96	28	26	8	1	335	34,693	-34,358
	29+00	57	5	94	12	428	34,709	-34,281
	29+50	57	5	81	8	509	34,719	-34,210
	30+00							
SUBTOTALS				509	26,707			

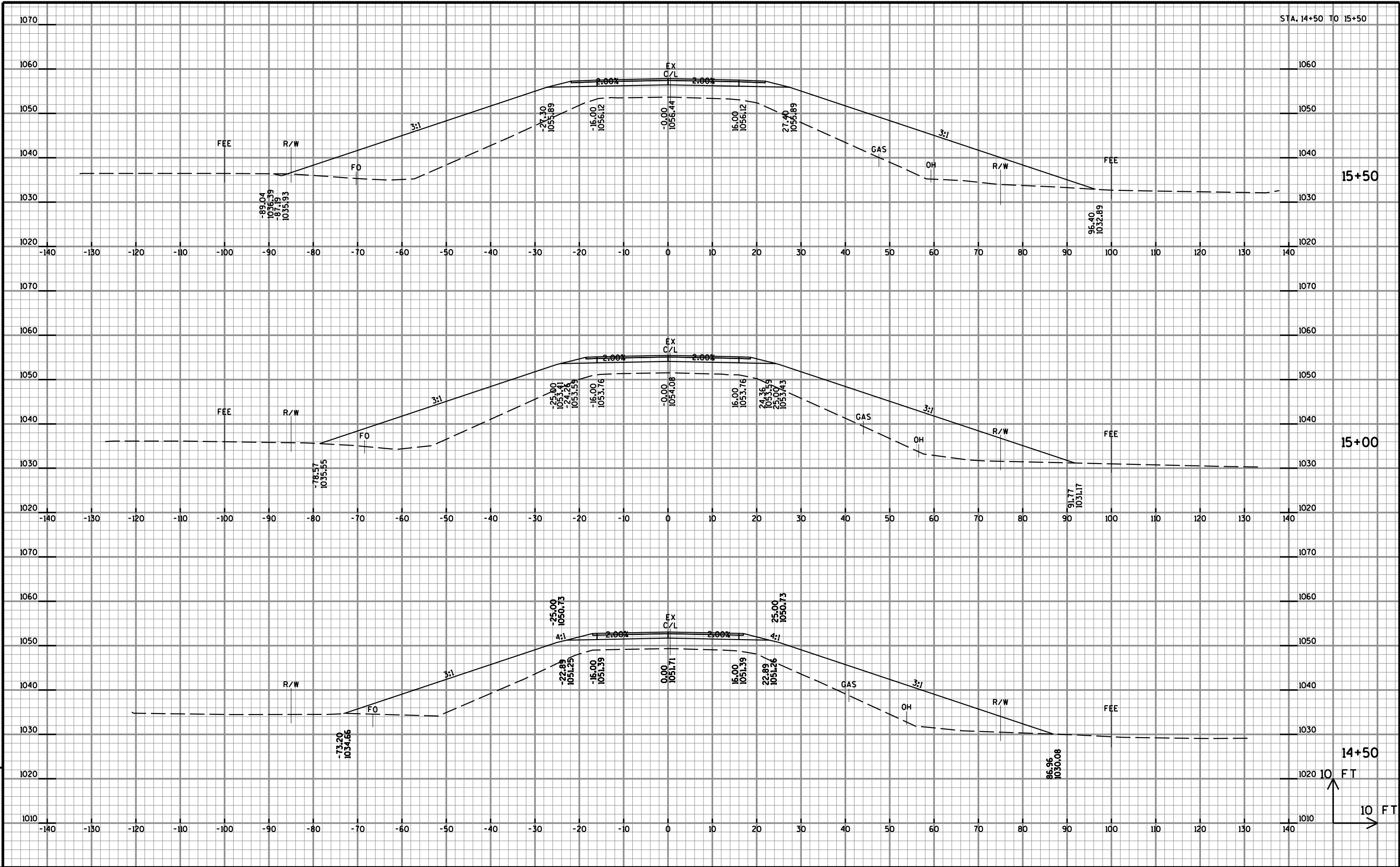
EARTHWORK SUMMARY (CATEGORY 0010), CONTINUED								
ROADWAY	STATION	AREA		INCREMENTAL VOLUME		CUMULATIVE VOLUME		
		CUT SF	FILL SF	CUT (1) CY	FILL (3) CY	EXPANDED		MASS ORDINATE ±(5) CY
						CUT (1) 1.00 CY	FILL (4) 1.30 CY	
IH 94 EB	706+00	7	0					
	706+25	11	0	8	0	8	0	8
	706+50	9	0	9	0	18	0	17
	706+75	7	3	7	2	25	2	23
	707+00	6	6	6	4	31	8	24
	707+25	5	9	5	7	36	16	20
	707+50	5	15	4	11	41	31	10
	707+75	5	13	5	13	45	48	-2
	708+00	10	0	7	6	52	56	-4
	708+25	16	0	12	0	64	56	8
	708+50	249	3	123	1	187	58	129
	708+75	456	0	327	1	513	59	454
	709+00	382	0	388	0	901	59	841
	709+25	111	0	228	0	1,129	59	1,070
	709+50	7	0	55	0	1,184	59	1,124
	709+75	10	0	8	0	1,192	59	1,133
	710+00	6	6	8	3	1,200	63	1,136
	710+25	4	33	5	18	1,204	86	1,118
	710+50	4	50	4	38	1,208	136	1,072
	710+75	4	62	3	52	1,212	203	1,008
	711+00	4	66	3	59	1,215	280	935
	711+25	4	70	4	63	1,218	362	857
	711+50	4	0	4	33	1,222	404	818
IH 94 WB	706+00	11	0					
	706+25	16	0	13	0	1,235	404	830
	706+50	16	0	15	0	15	404	845
	706+75	13	0	13	0	13	404	858
	707+00	12	0	11	0	1,246	404	870
	707+25	12	0	11	0	26	404	881
	707+50	18	0	14	0	27	404	895
	707+75	19	0	17	0	1,263	404	912
	708+00	10	0	13	0	39	404	925
	708+25	154	0	76	0	103	404	1,001
	708+50	449	0	279	0	1,542	404	1,279
	708+75	577	0	475	0	514	404	1,755
	709+00	412	0	458	0	561	404	2,213
	709+25	100	0	237	0	1,779	404	2,450
	709+50	26	0	58	0	572	404	2,508
	709+75	16	0	20	0	581	404	2,528
	710+00	12	0	13	0	1,792	404	2,541
	710+25	10	0	10	0	582	404	2,551
	710+50	12	0	10	0	591	404	2,561
	710+75	12	0	11	0	1,803	404	2,572
	711+00	12	0	11	0	593	404	2,583
	711+25	13	0	12	0	602	404	2,595
	711+50	14	0	13	0	1,816	404	2,607
SUBTOTALS				3,011	311			

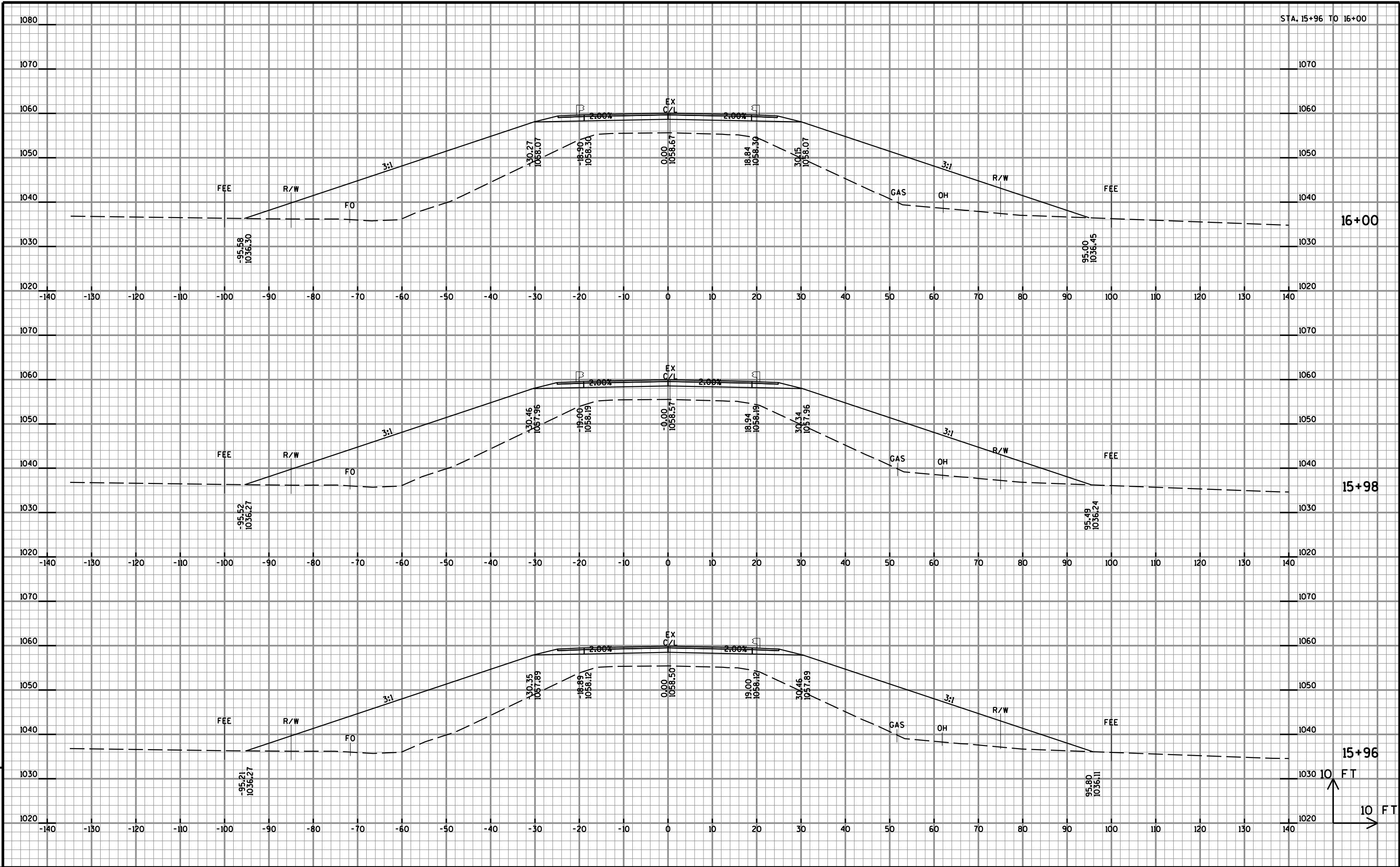
NOTES:
1) EXCAVATION COMMON IS THE SUM OF THE CUT COLUMN. ITEM NUMBER 205.0100
2) SALVAGED/UNUSEABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
3) DOES NOT INCLUDE UNUSABLE PAVEMENT EXCAVATION VOLUME.
4) EXPANDED FILL FACTOR = 1.30 EXPANDED FILL = UNEXPANDED FILL * FILL FACTOR
5) THE MASS ORDINATE ± QTY CALCULATED FOR THE DIVISION.

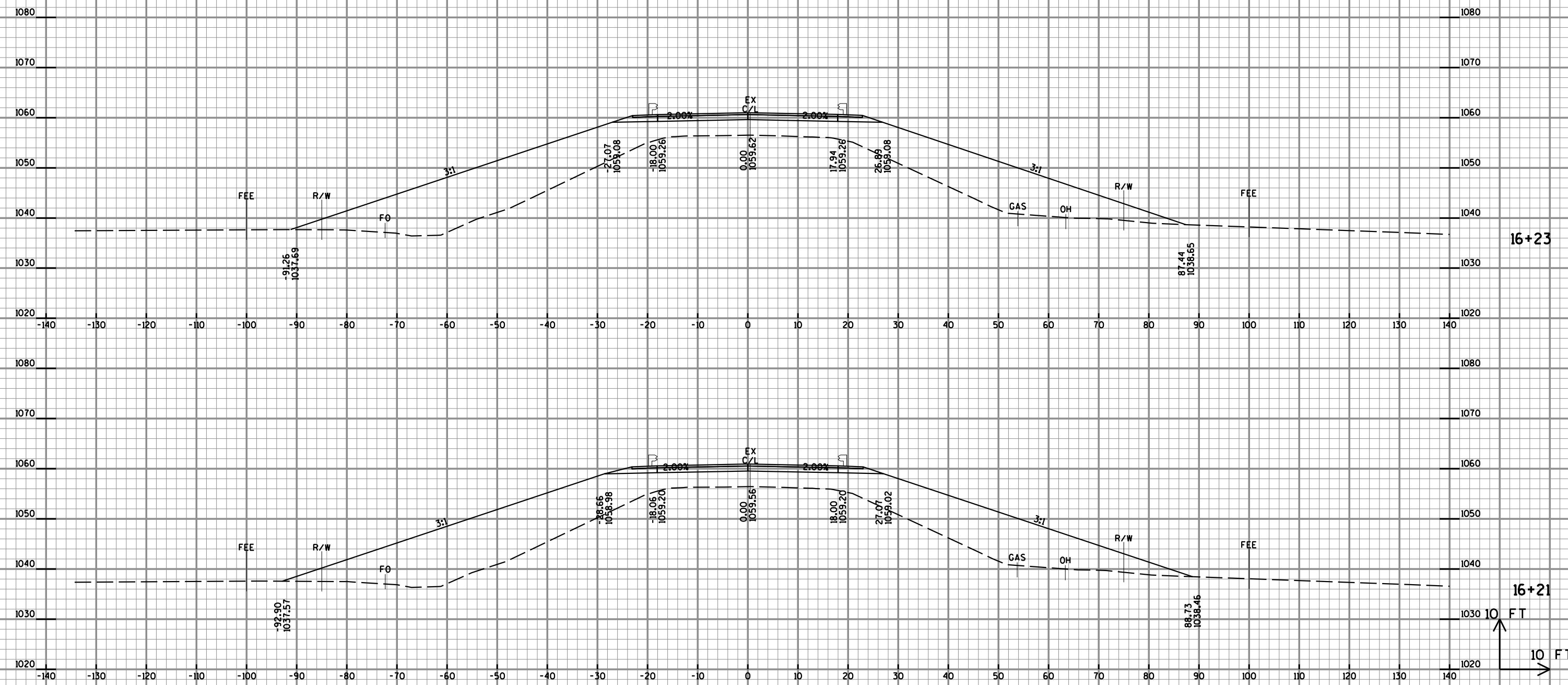
PLUS (+) QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION.
MINUS (-) QUANTITY INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.

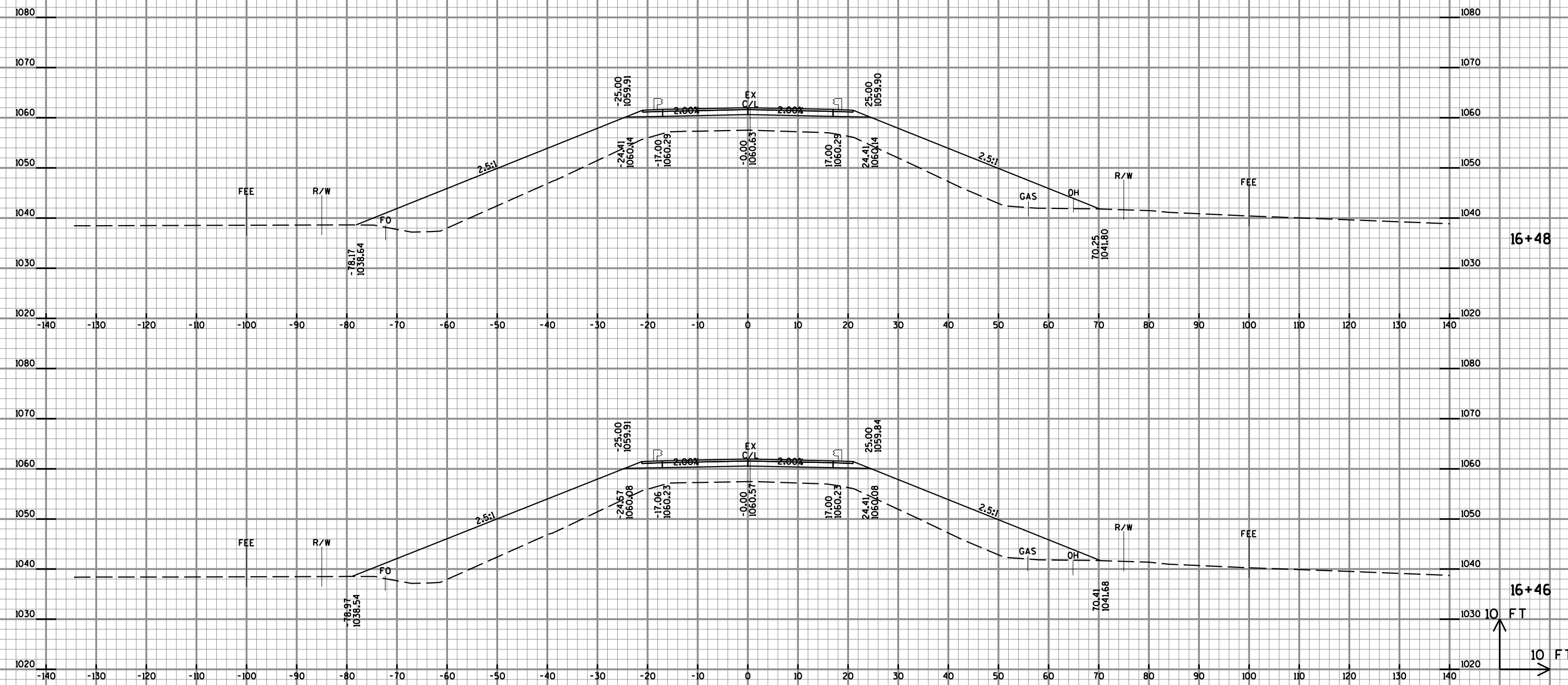




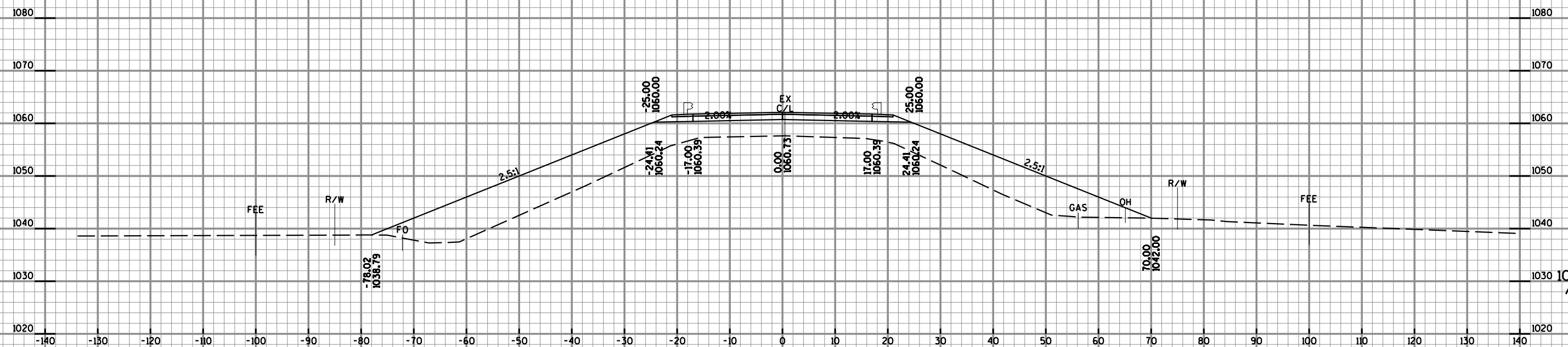
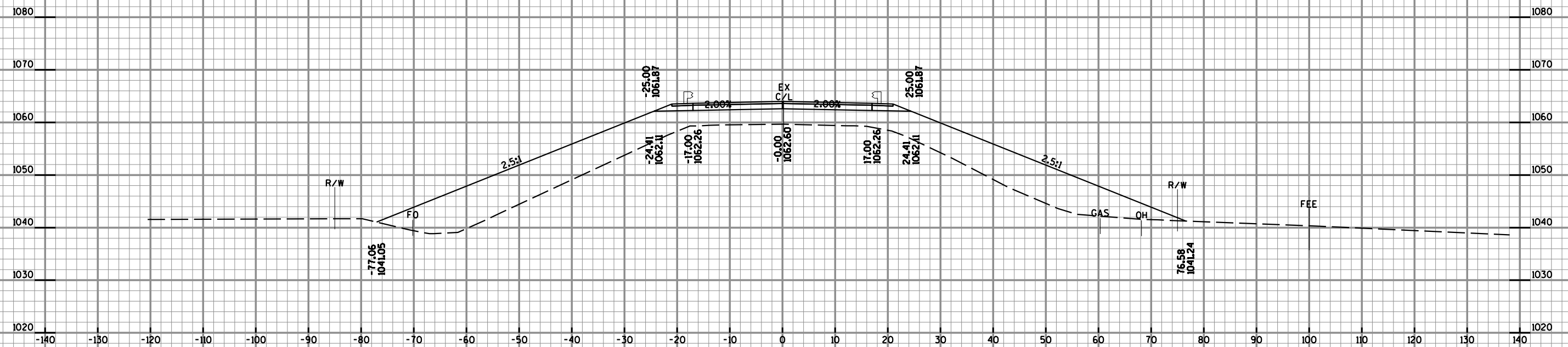








STA. 16+50 TO 17+00



PROJECT NO: 1020-01-83

HWY: CTH J

COUNTY: ST. CROIX

CROSS SECTIONS

SHEET

25

FILE NAME : U:\42-0886.00 - St. Croix Co, I94 Overpasses x3\42-0886.03 B-55-41 CTH J\InRoads\42088603_xs proposed 072215.dgn

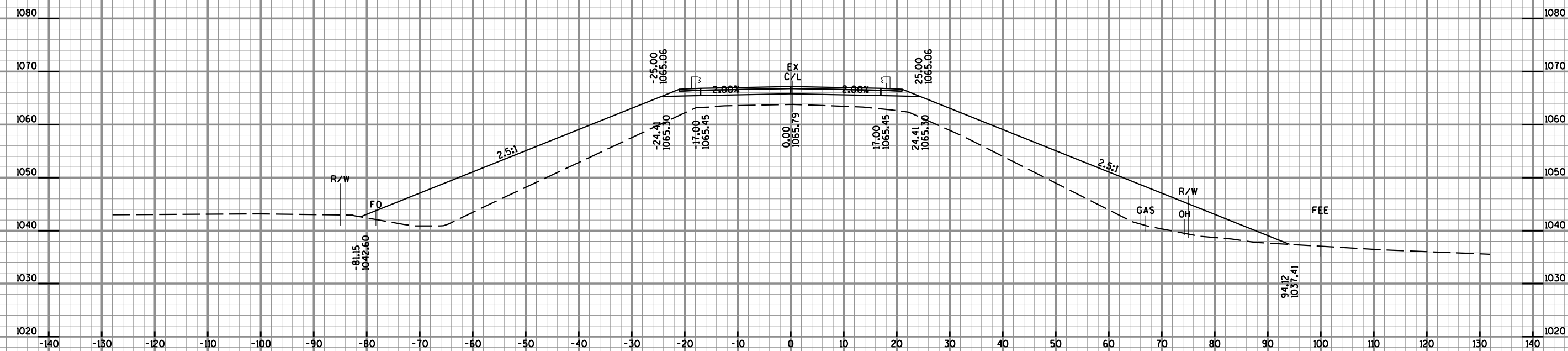
PLOT DATE : 7/24/2015

PLOT BY : AYRES-EC

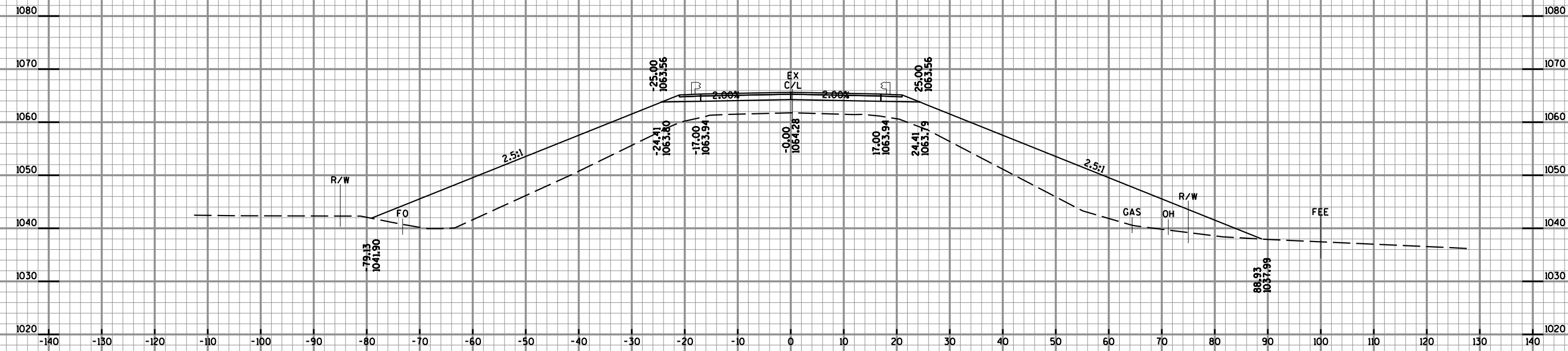
PLOT NAME :

PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21



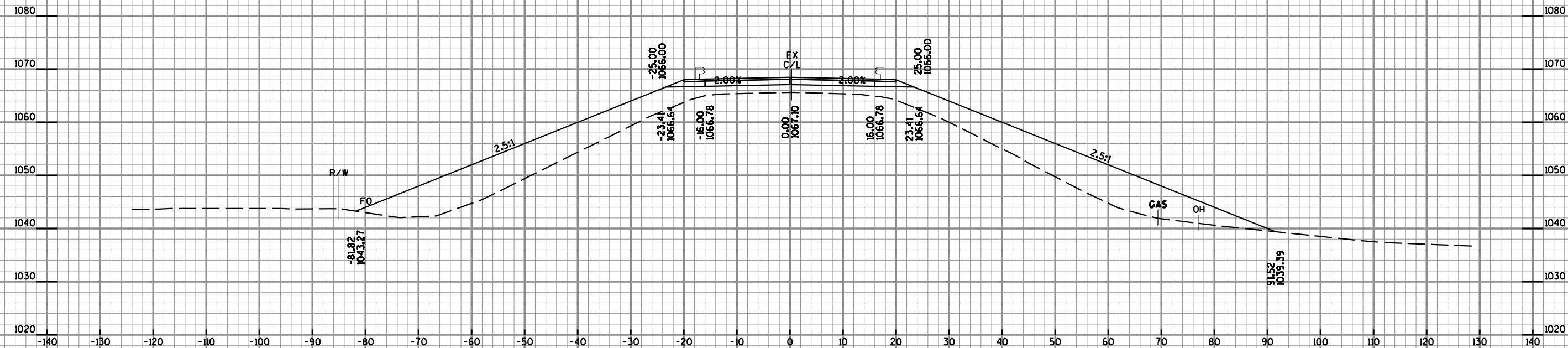
18+00

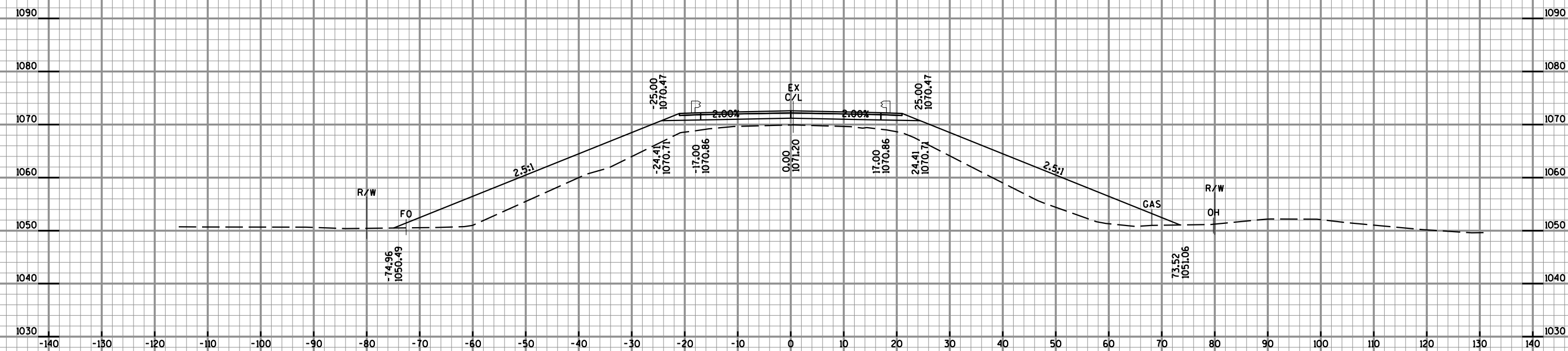


17+50

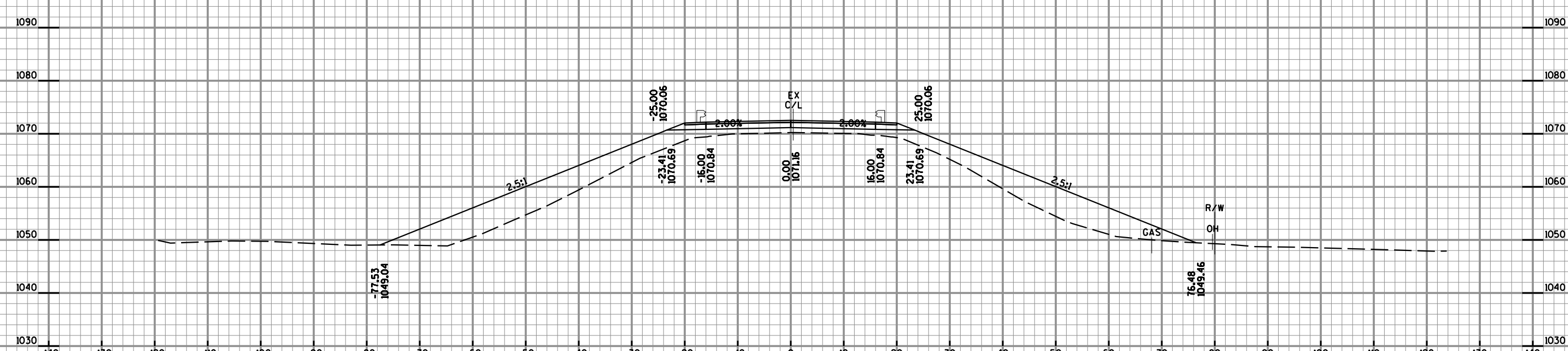
10 FT
10 FT

STRUCTURE B-55-0259



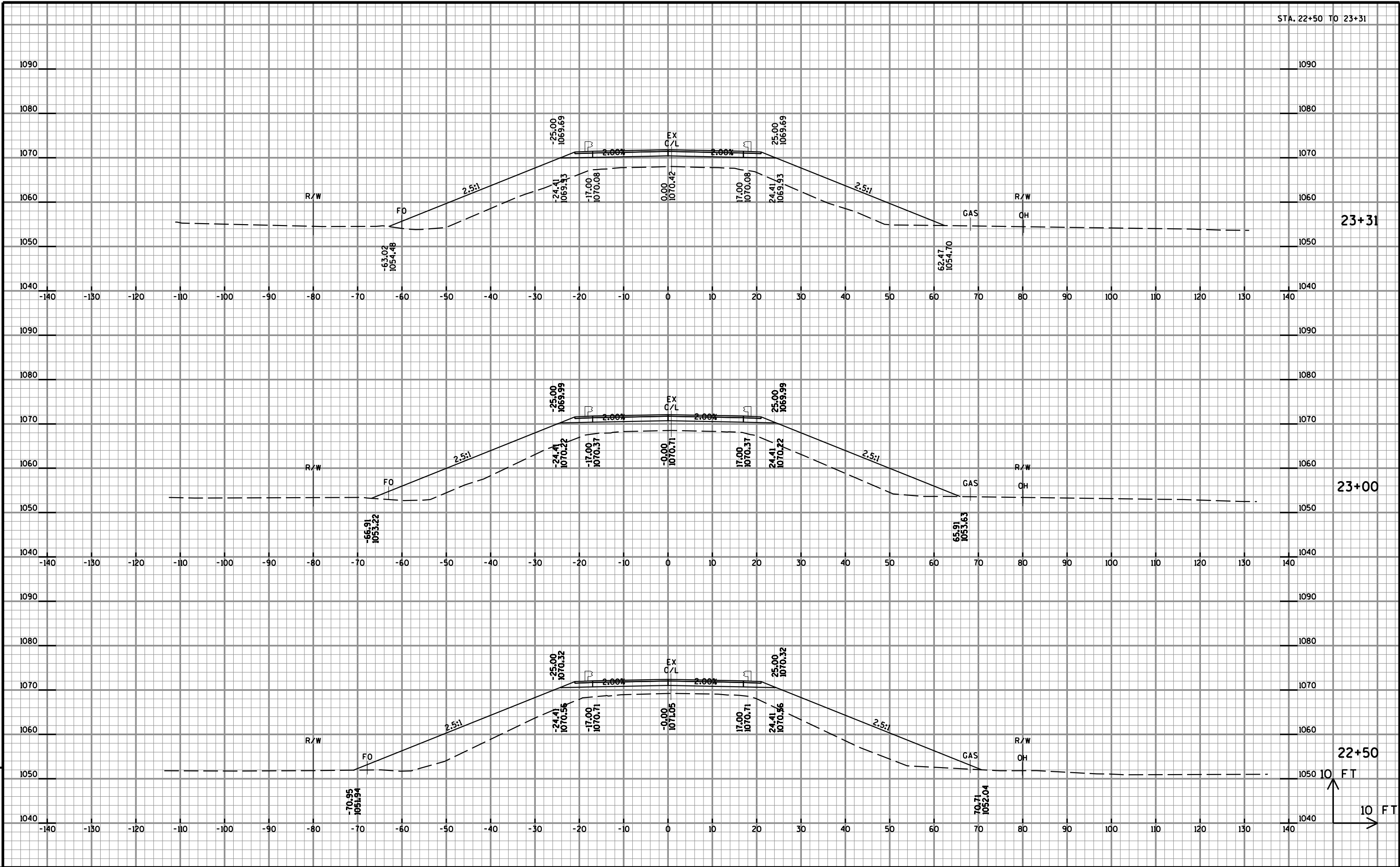


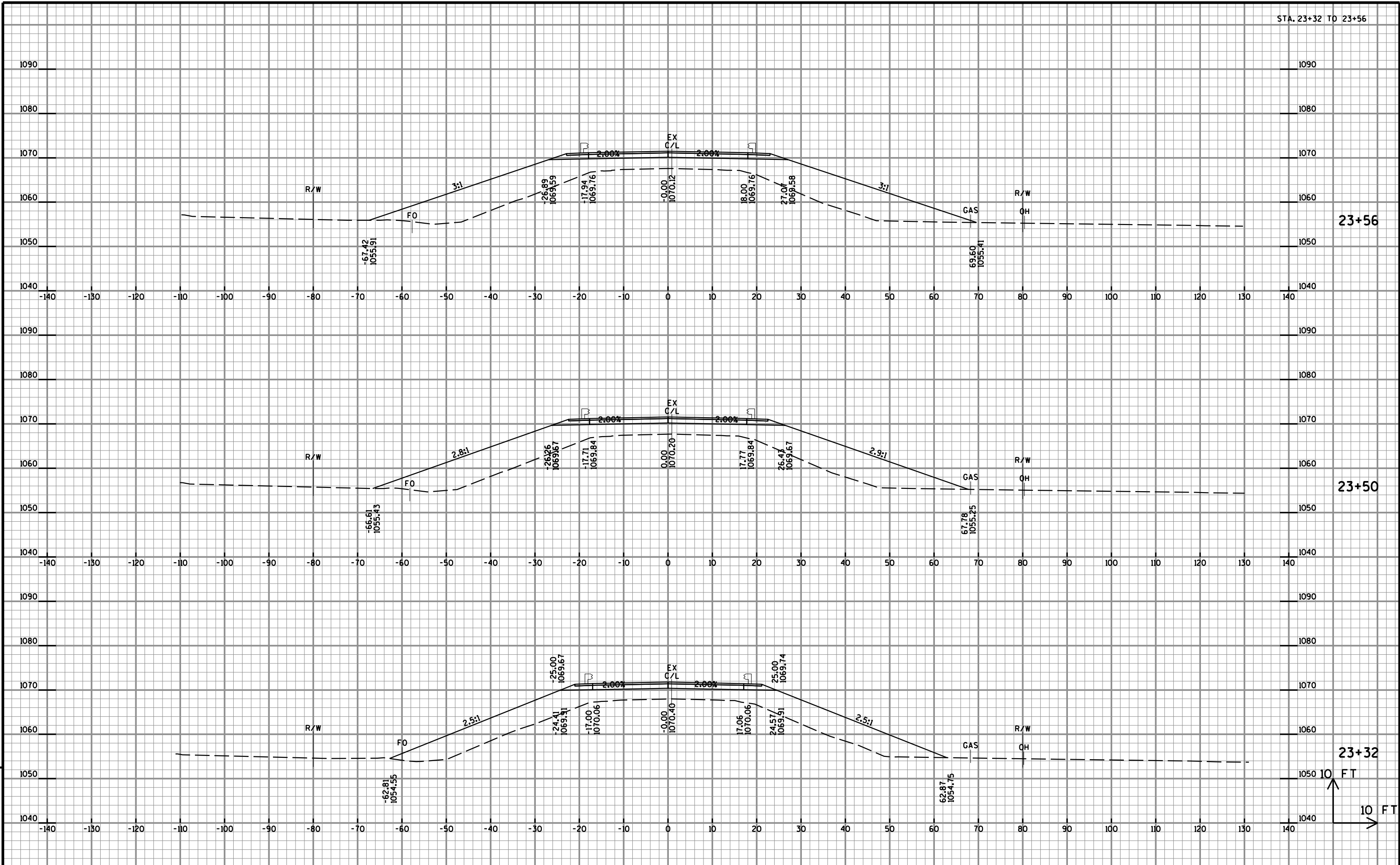
22+00

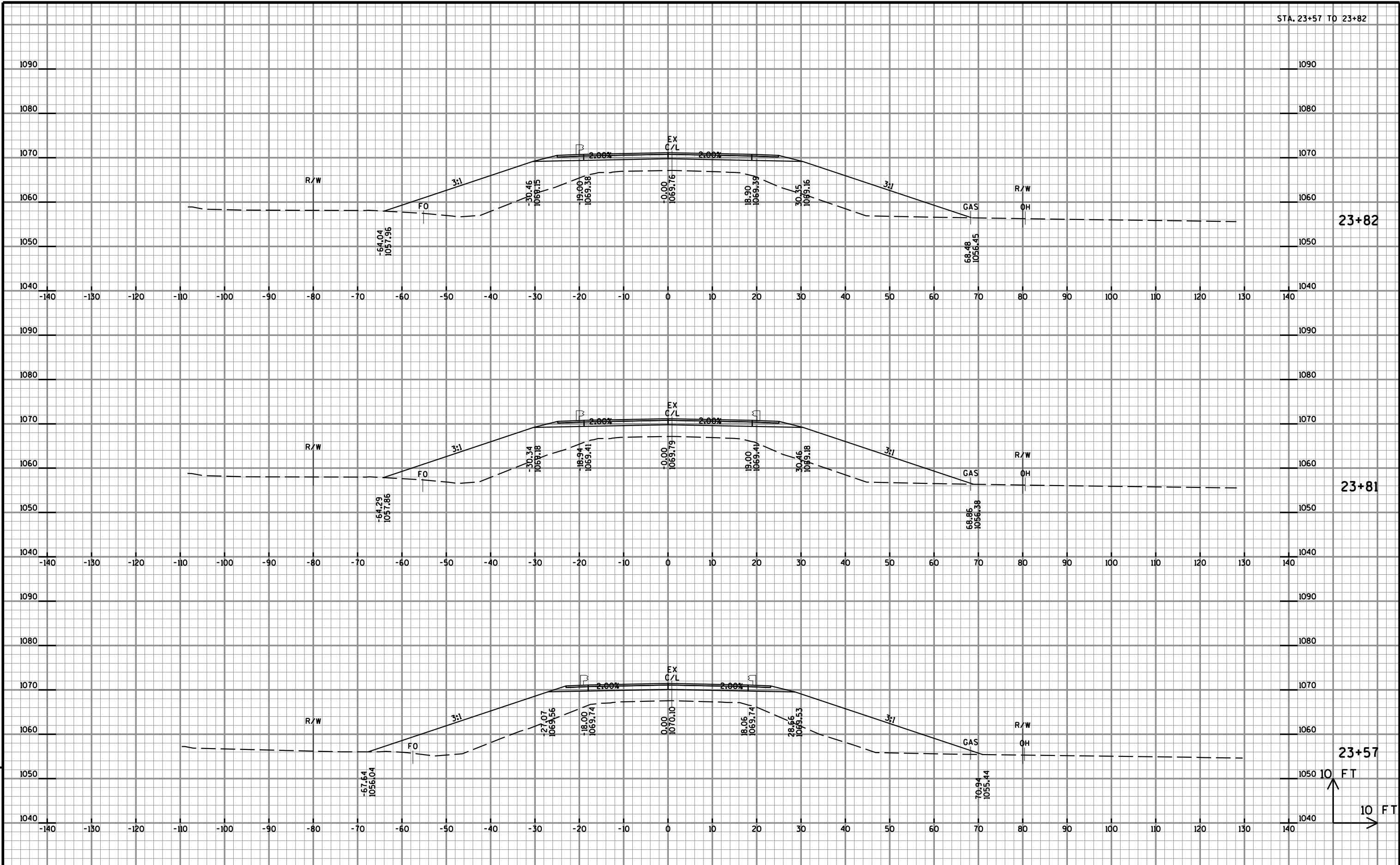


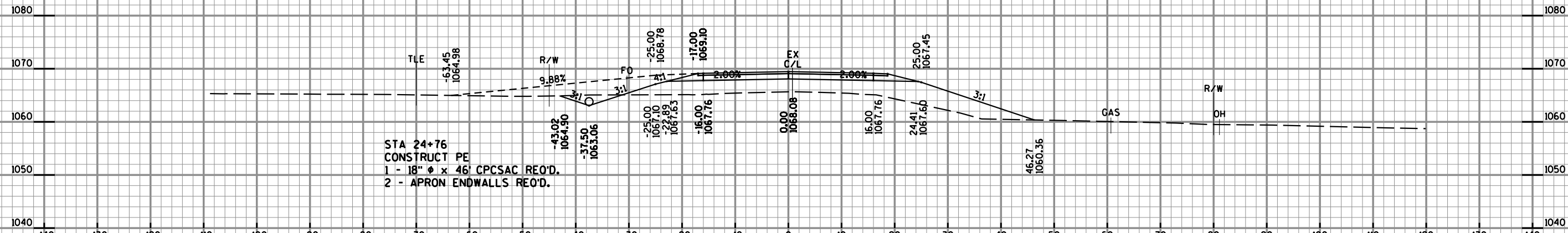
21+50

10 FT
10 FT

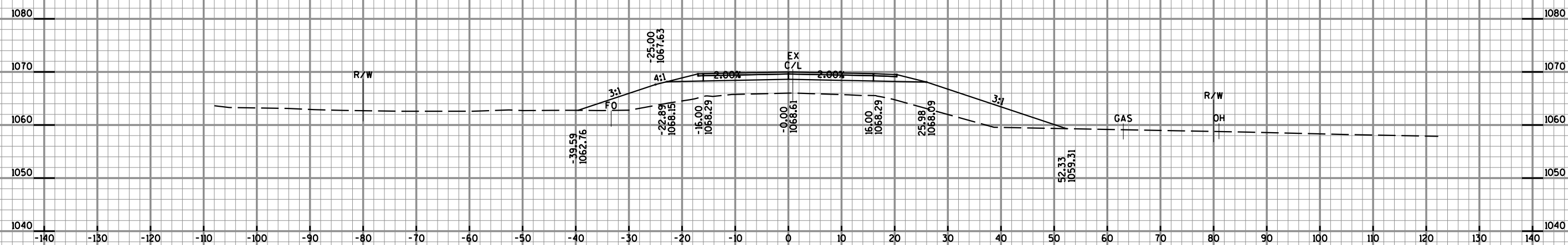




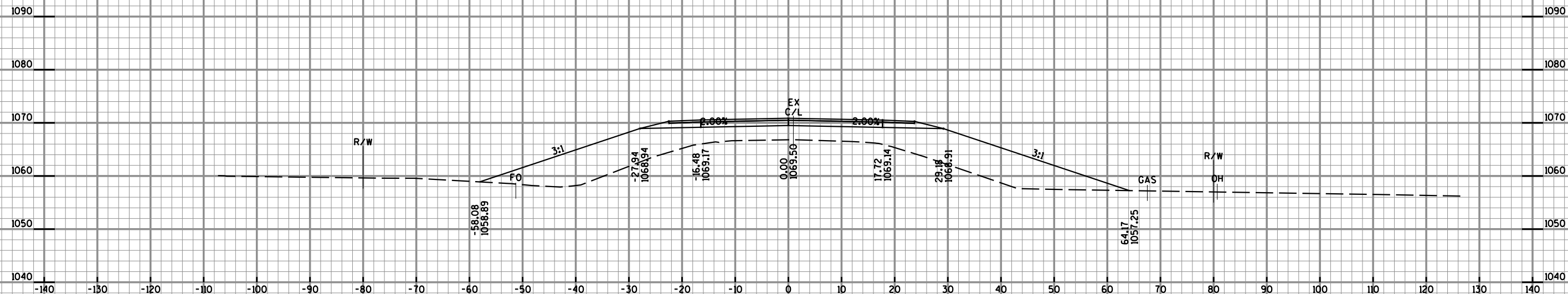




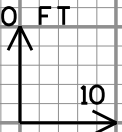
24+76

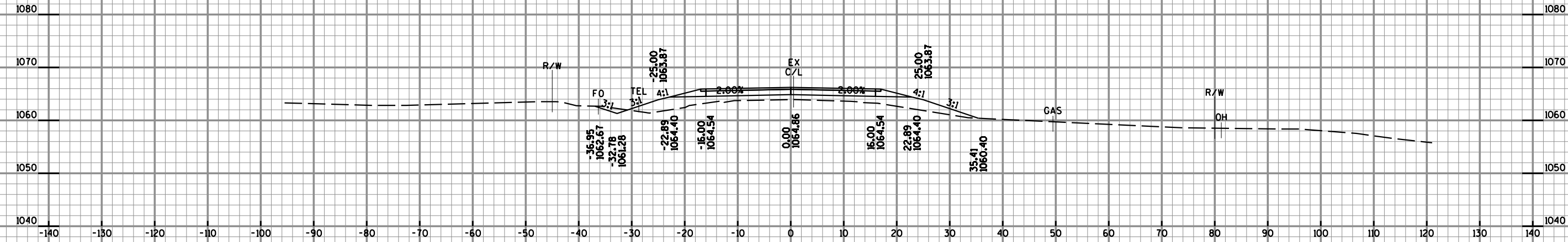


24+50

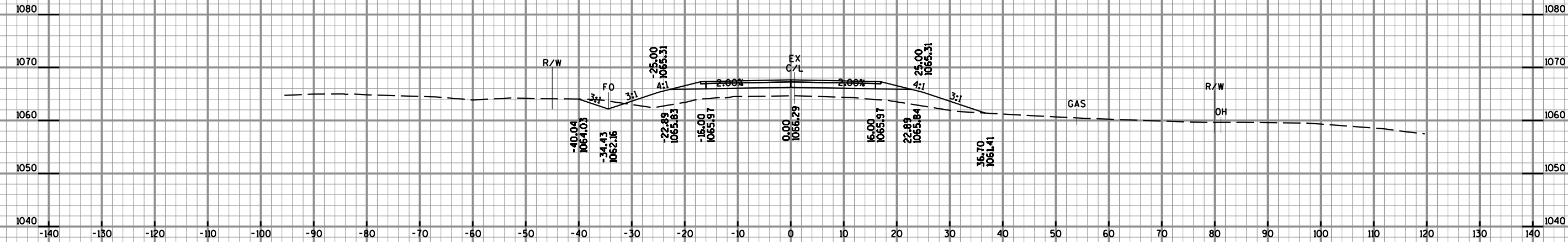


24+00

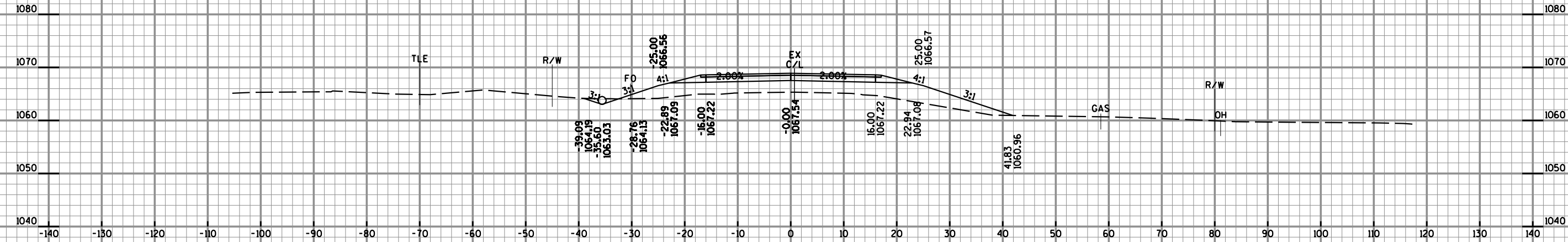




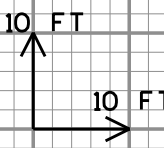
26+00

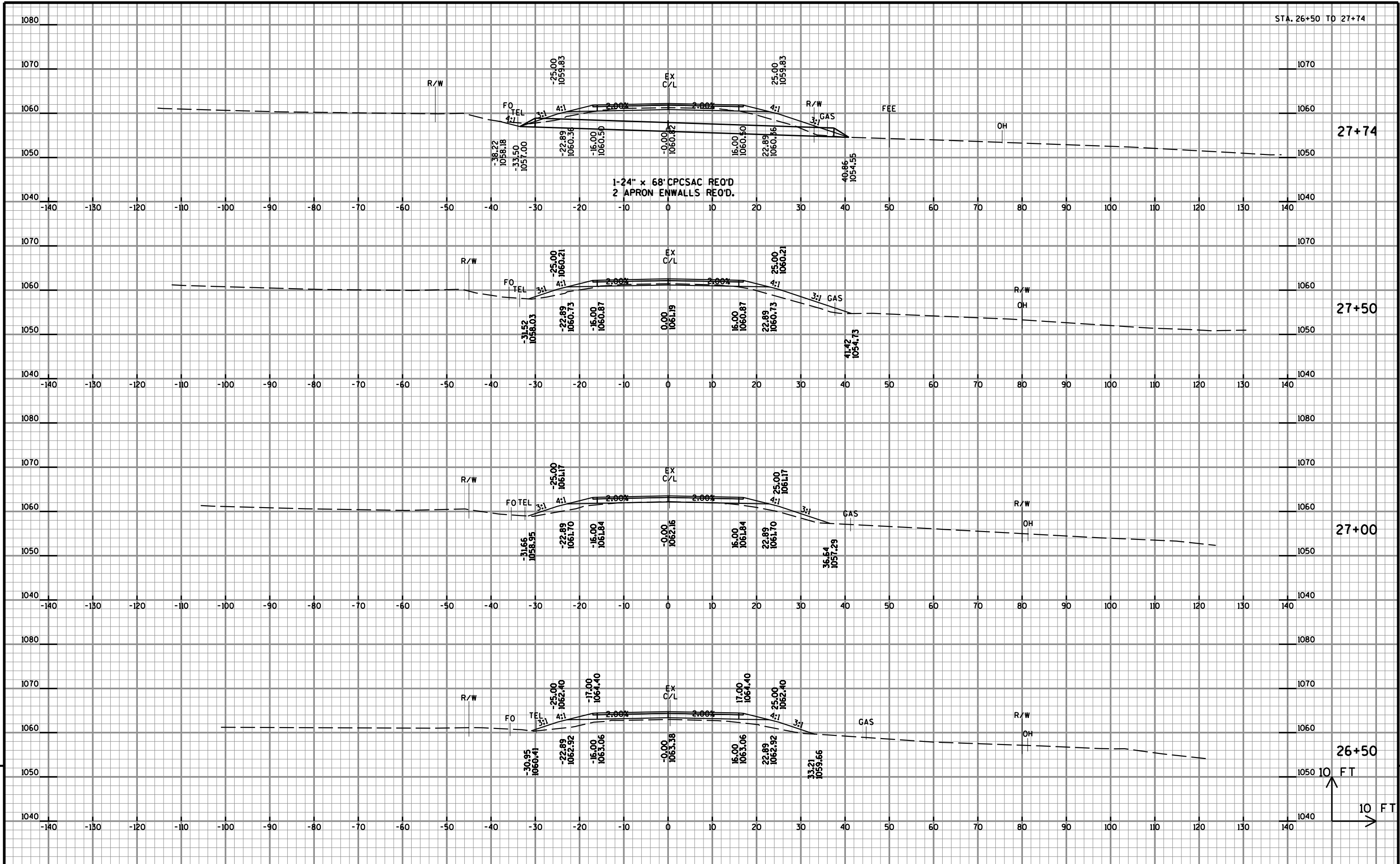


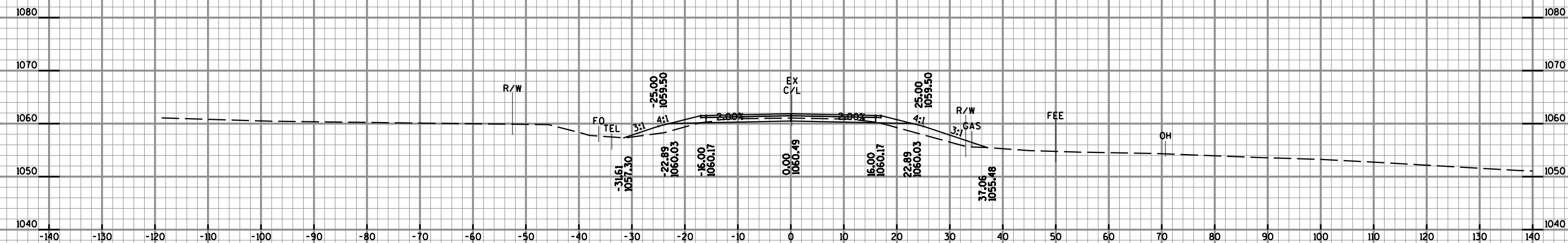
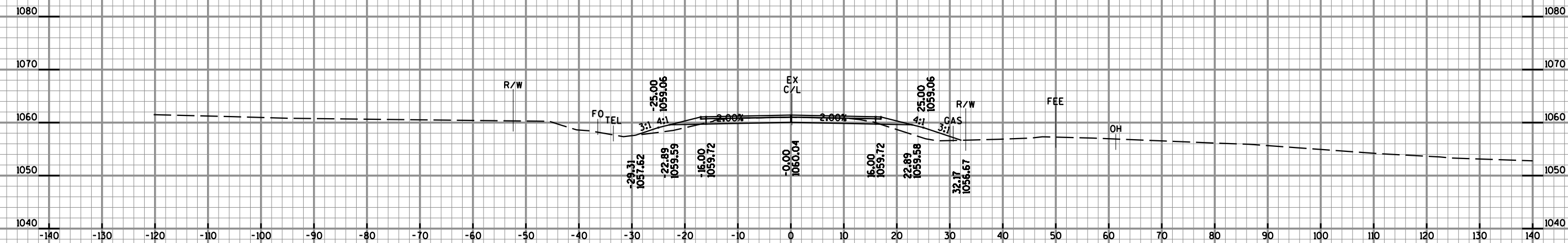
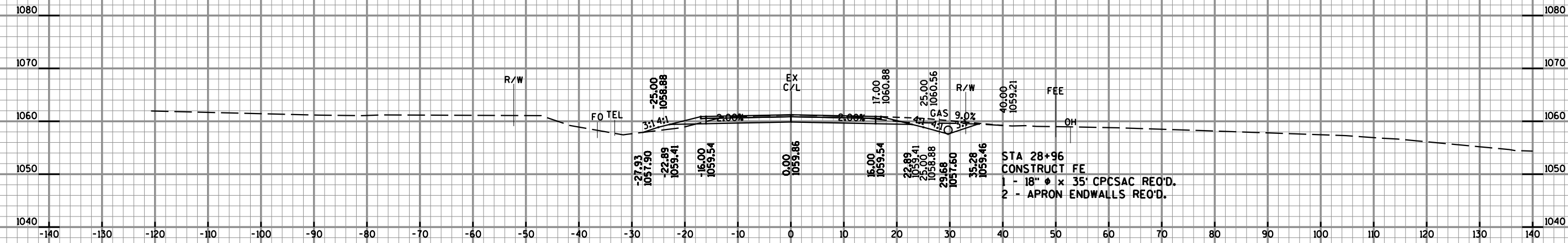
25+50



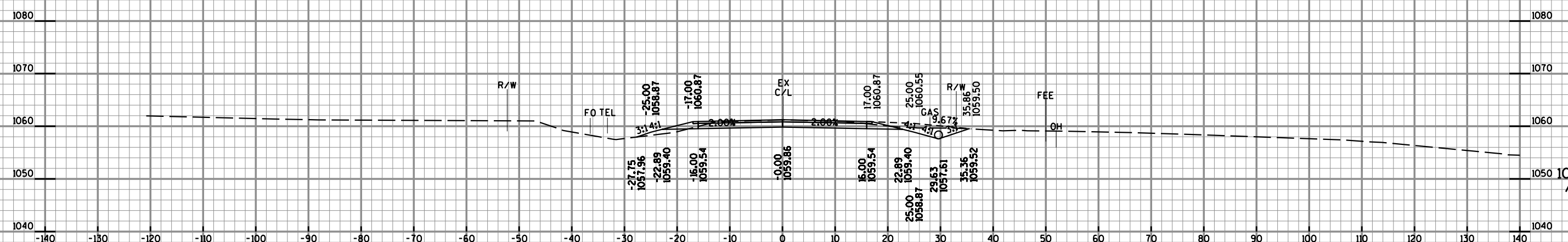
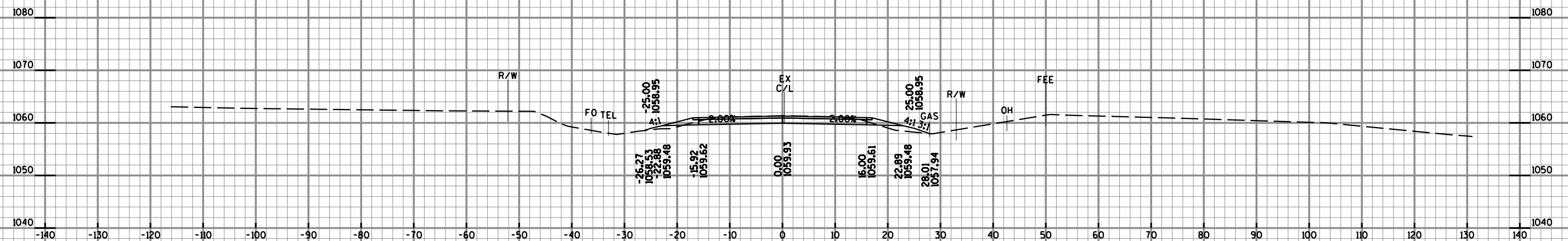
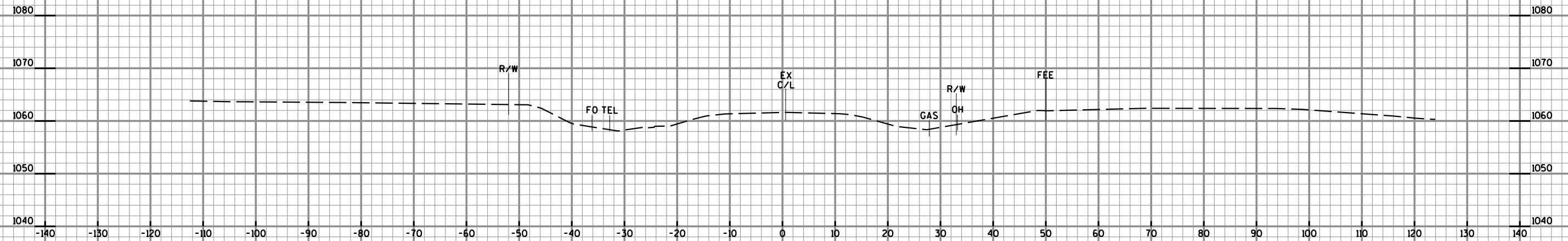
25+00







END PROJECT
STA. 30+00
(MATCH EXISTING)



STA. 30+50 TO 30+50

1080

1070

1060

1050

1040

1080

1070

1060

1050

1040

R/W

EX
C/L

R/W

FO TEL

GAS

OH

30+50

10 FT

10 FT

9

9

PROJECT NO: 1020-01-83

HWY: CTH J

COUNTY: ST. CROIX

CROSS SECTIONS

SHEET

137

E

FILE NAME : U:\42-0886.00 - St. Croix Co, I94 Overpasses x3\42-0886.03 B-55-41 CTH J\InRoads\42088603_xs proposed 072215.dgn

PLOT DATE : 7/24/2015

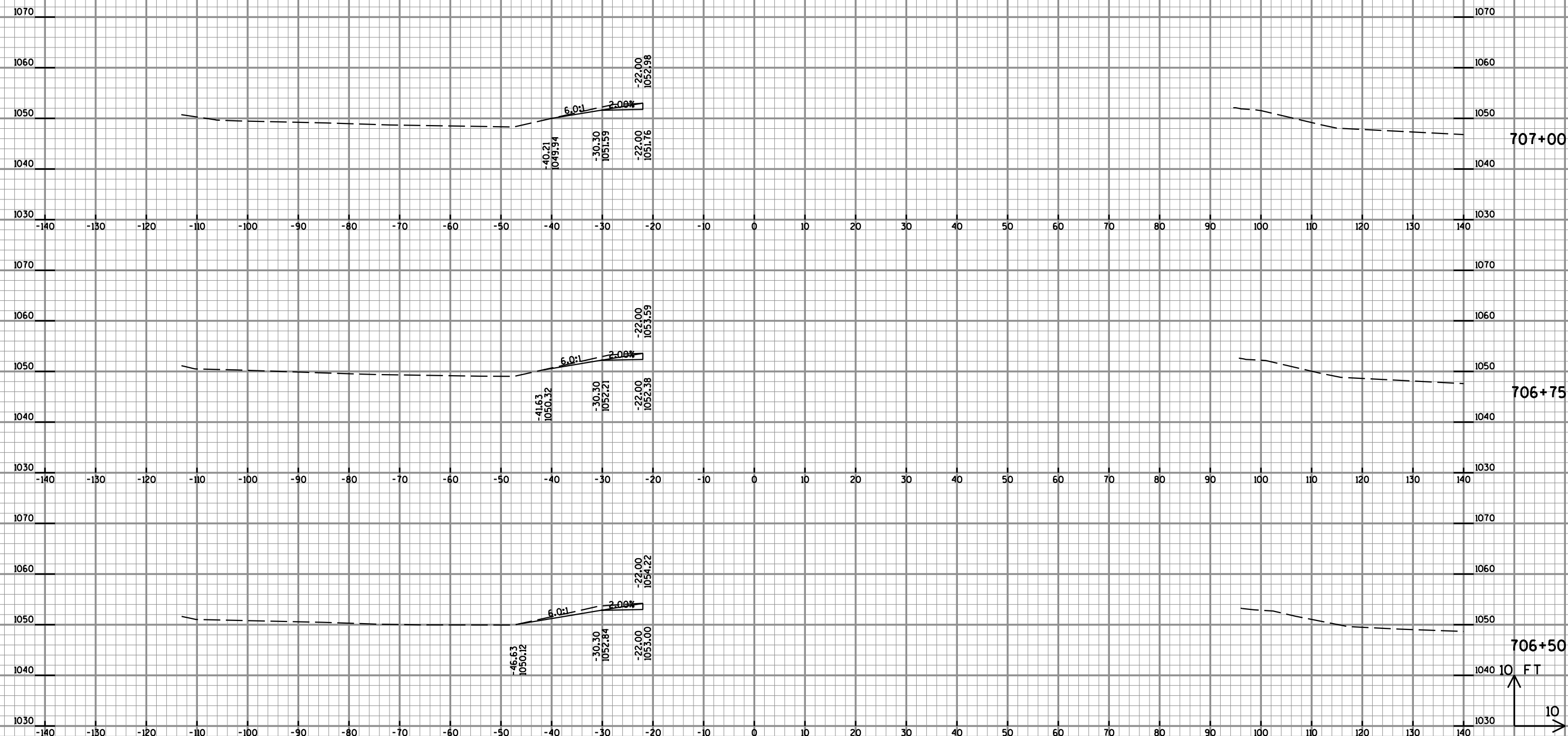
PLOT BY : AYRES-EC

PLOT NAME :

PLOT SCALE : 1:20

WISDOT/CADDs SHEET 21

STA. 706+50 TO 707+00



PROJECT NO: 1020-01-83

HWY: CTH J

COUNTY: ST. CROIX

CROSS SECTIONS - IH 94 WB

SHEET

139

E

FILE NAME : U:\42-0886.00 - St. Croix Co, I94 Overpasses x3\42-0886.03 B-55-41 CTH J\InRoads\42088603_xs IH 94.dgn

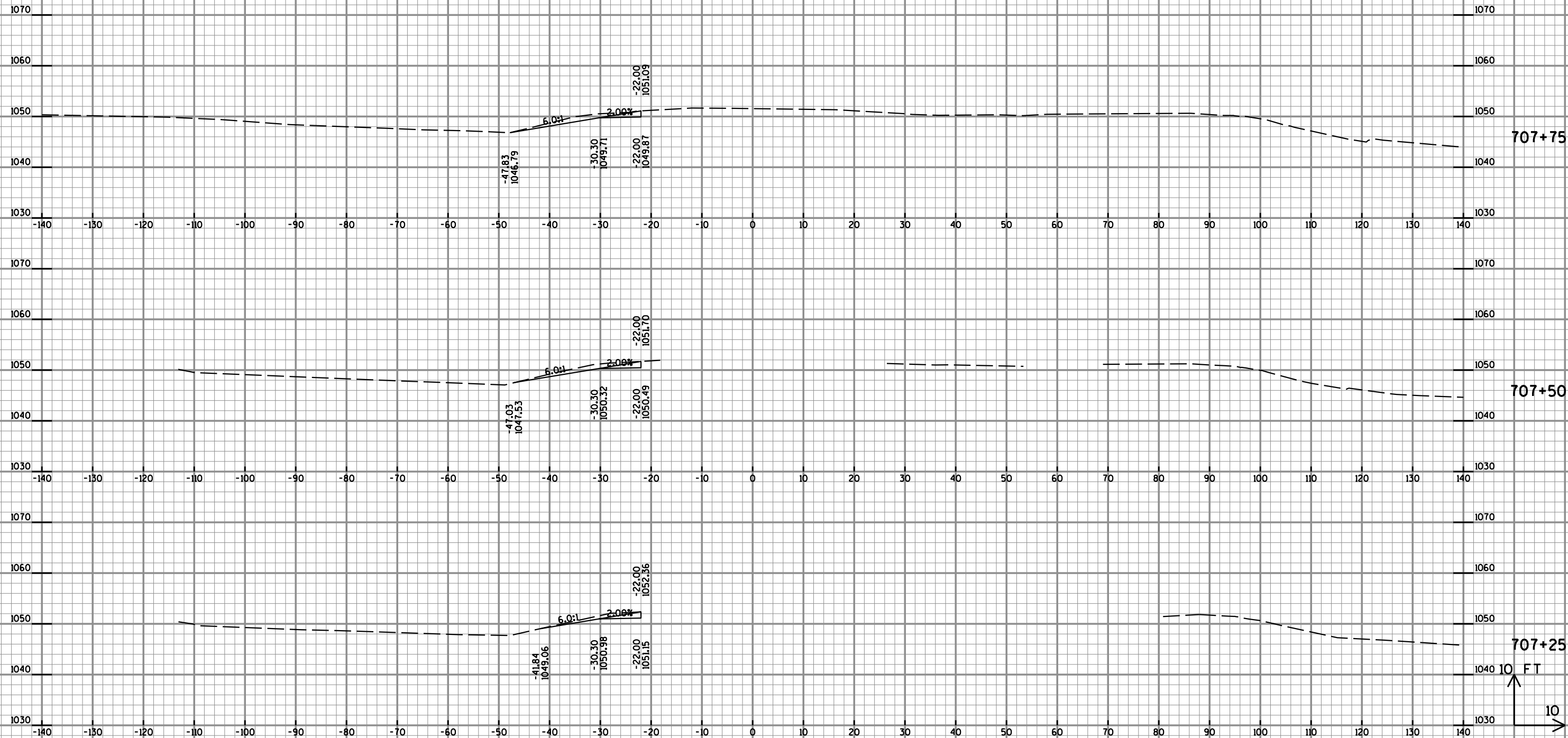
PLOT DATE : 7/24/2015

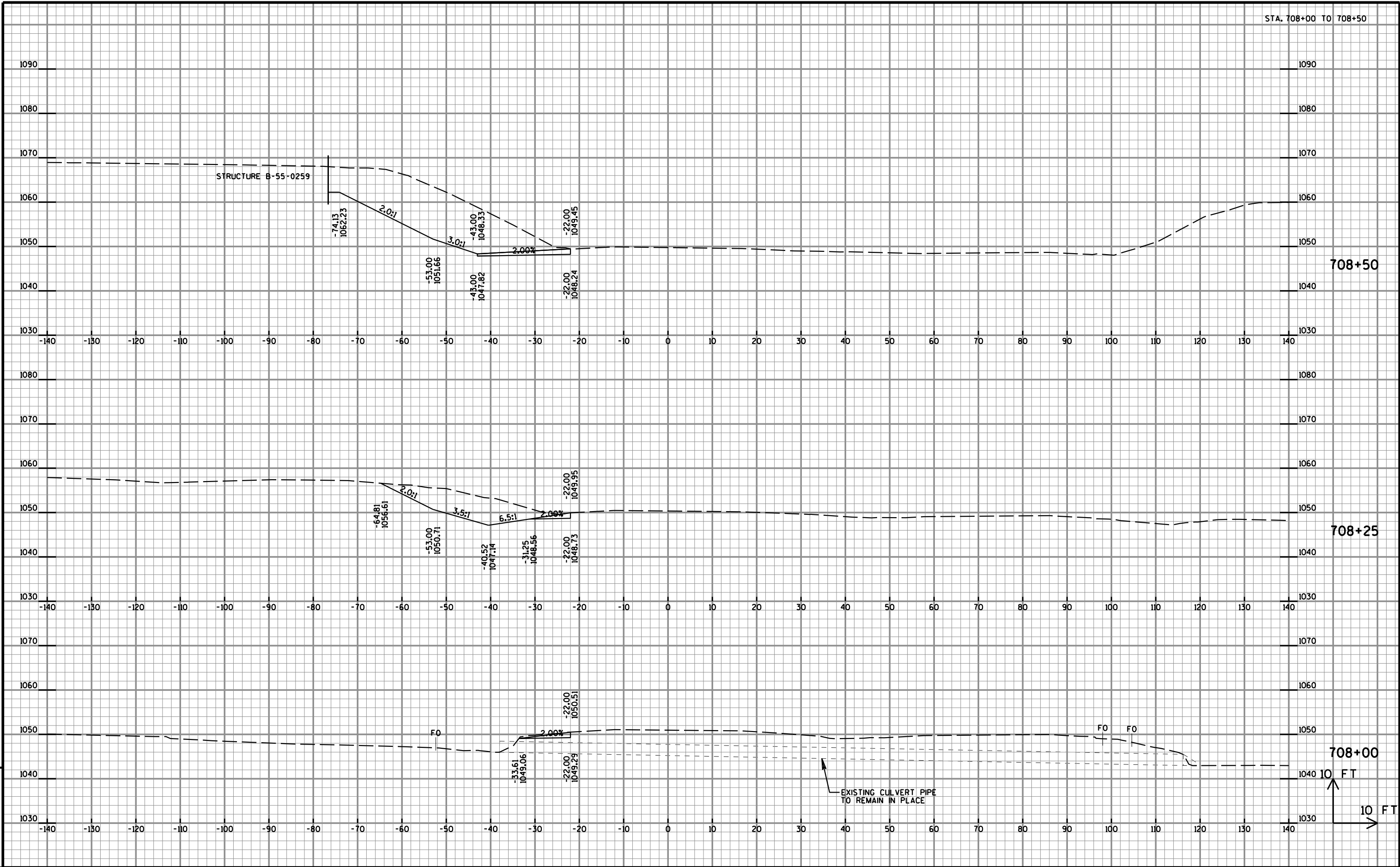
PLOT BY : AYRES-EC

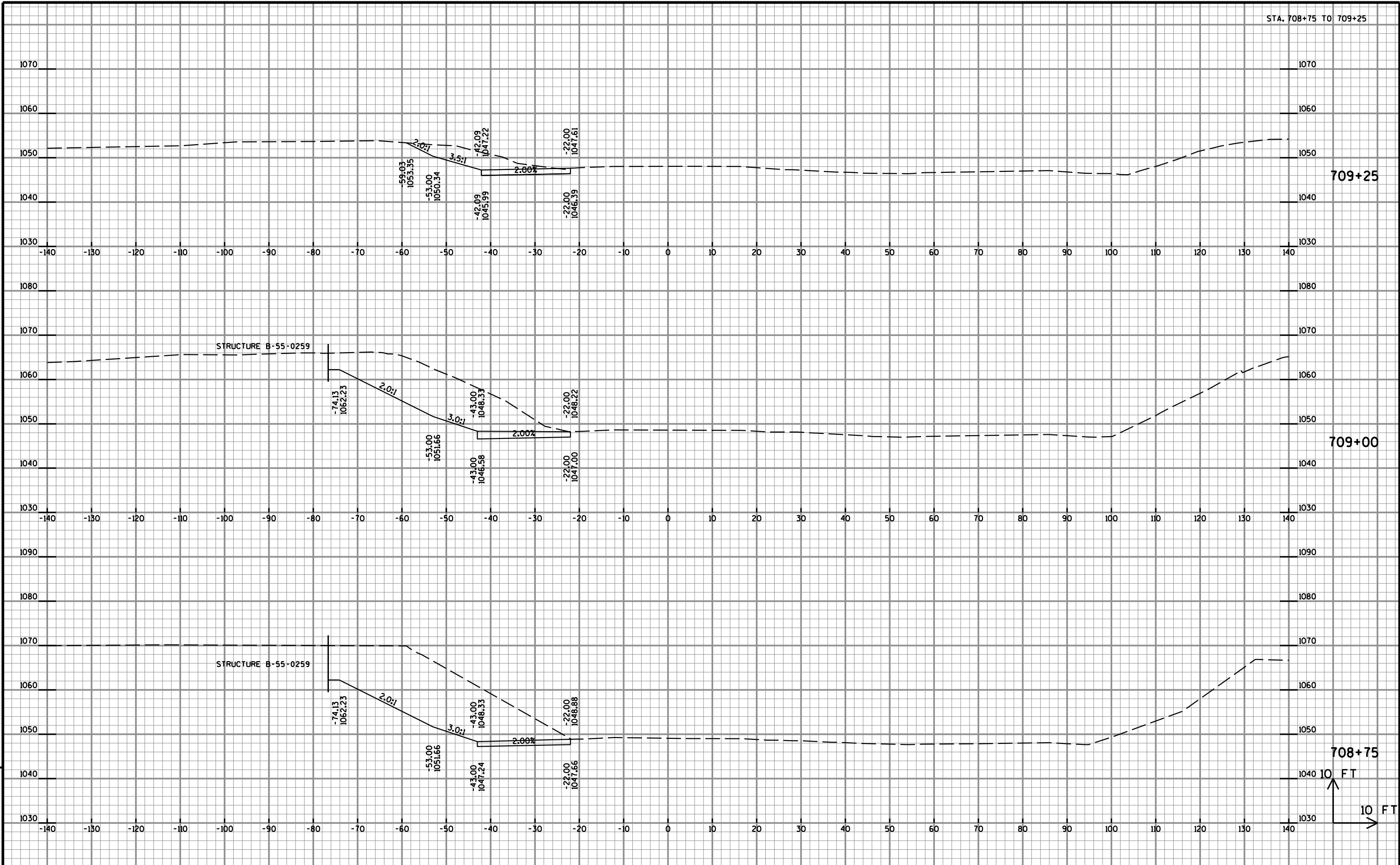
PLOT NAME :

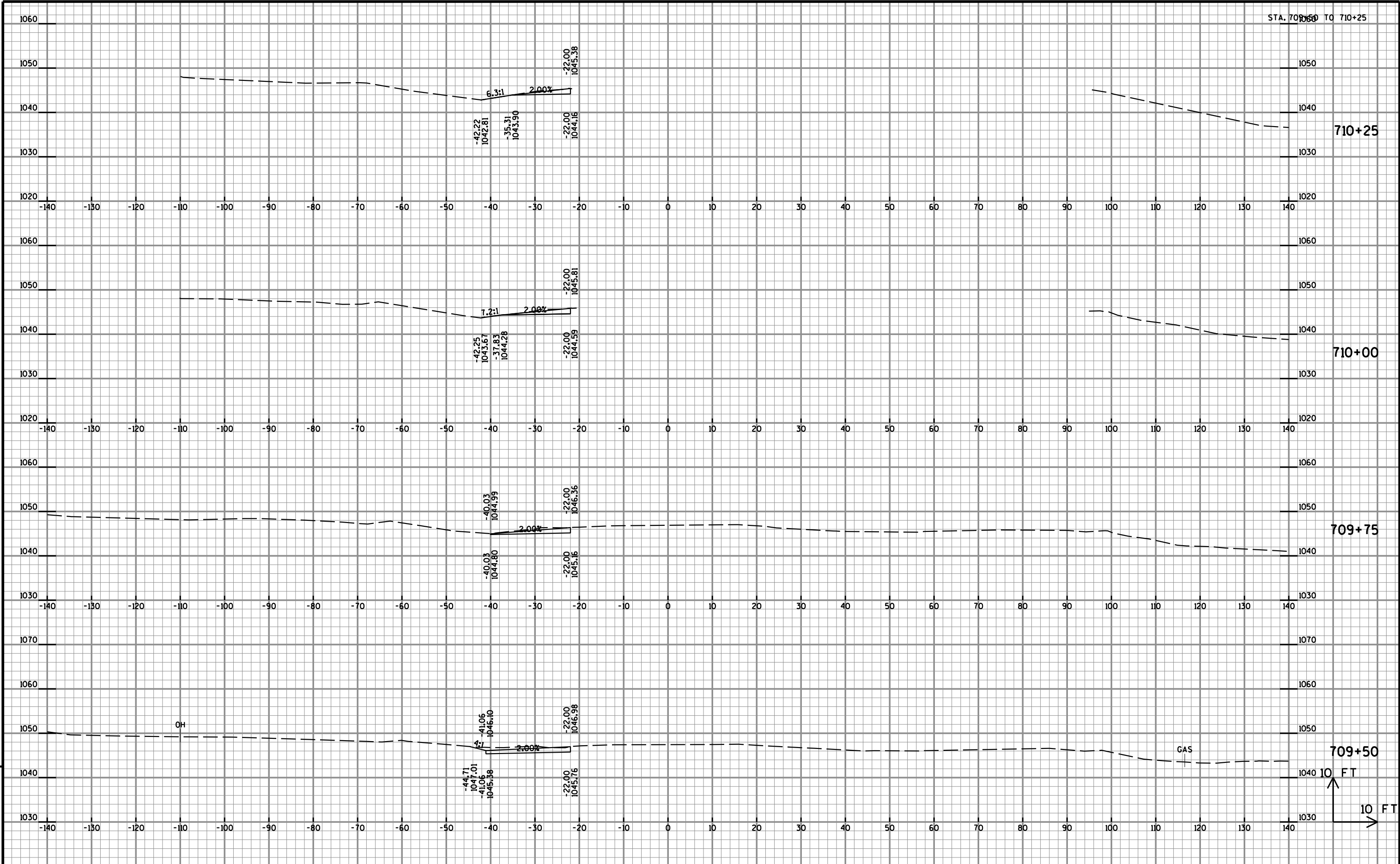
PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

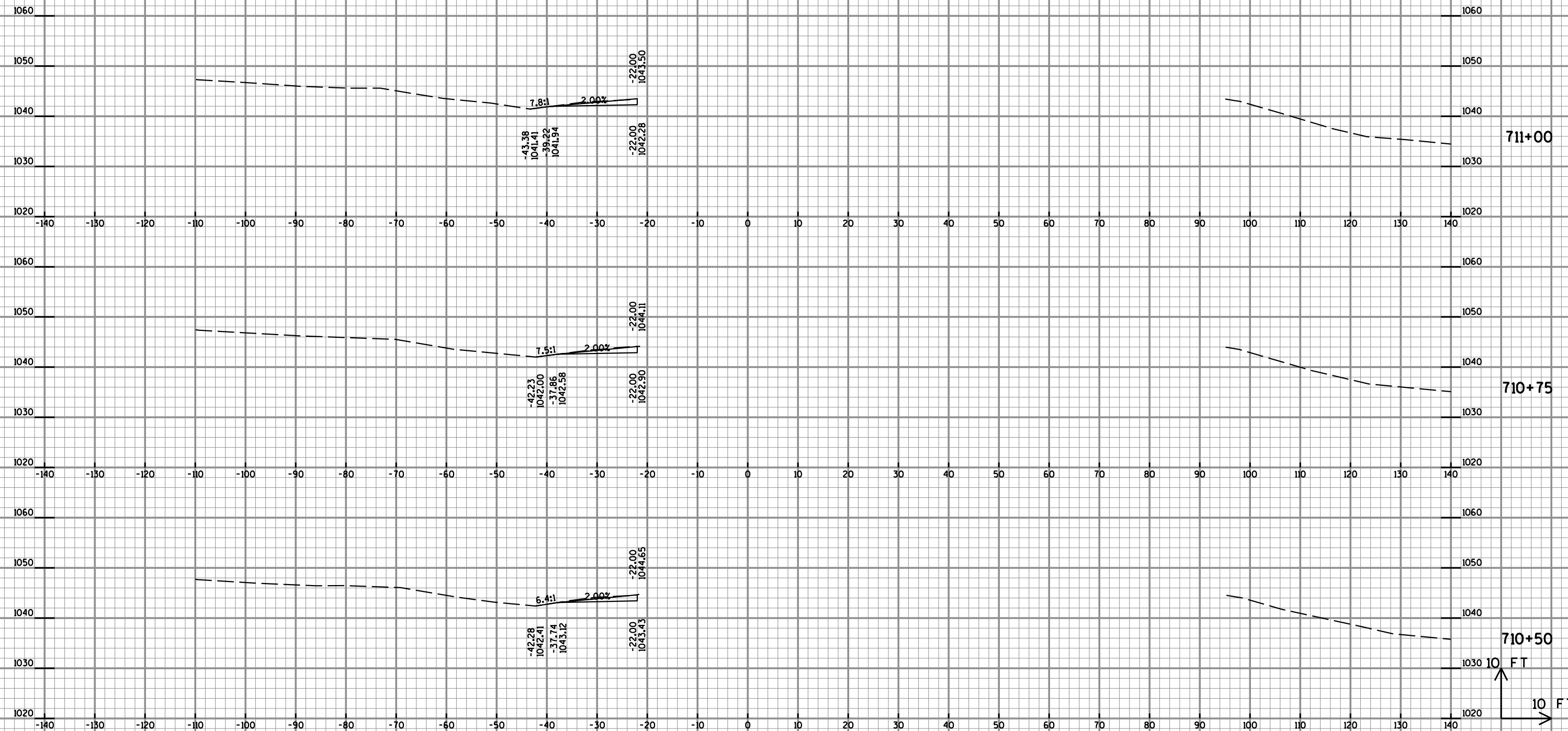








STA. 710+50 TO 711+00



PROJECT NO: 1020-01-83

HWY: CTH J

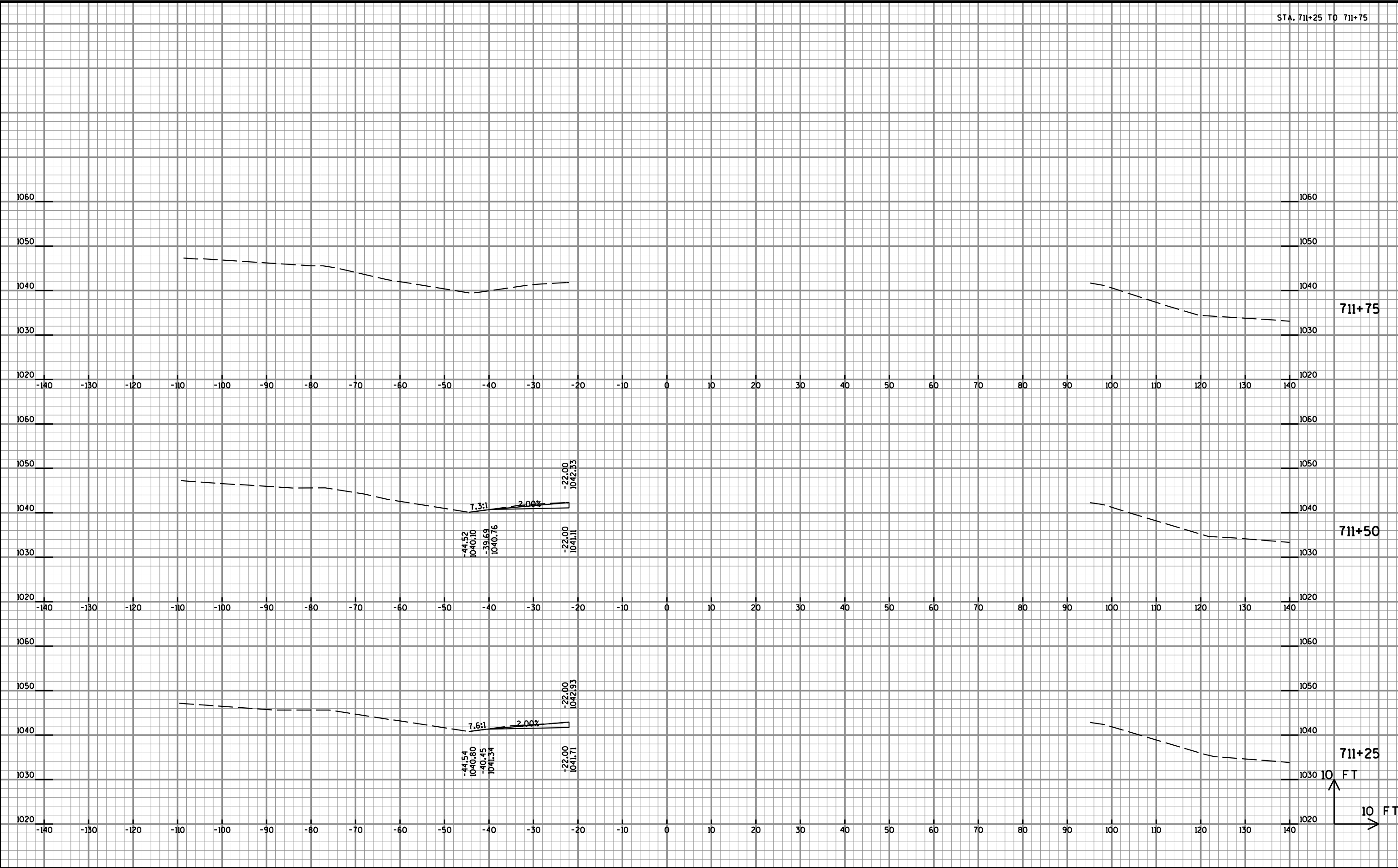
COUNTY: ST. CROIX

CROSS SECTIONS - IH 94 WB

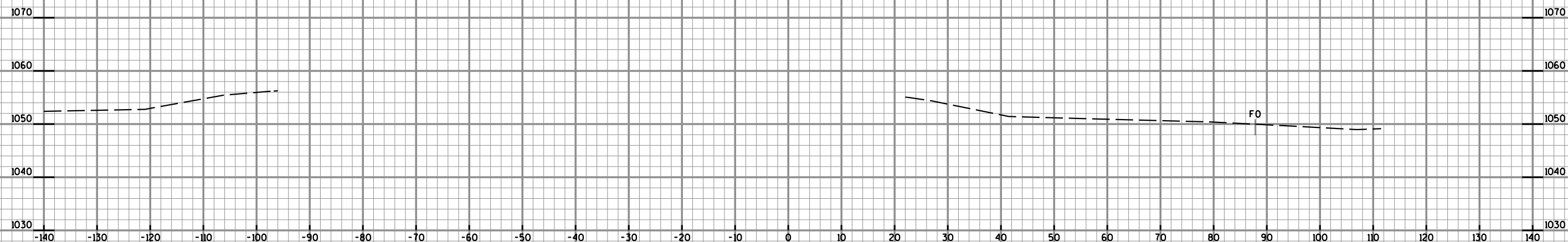
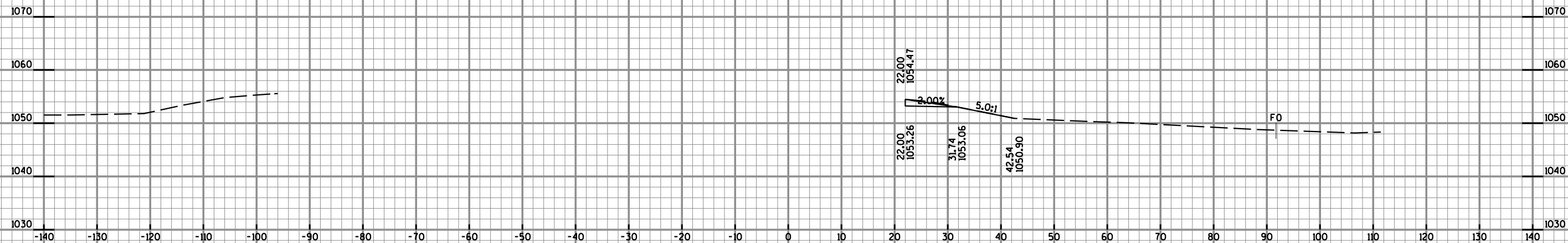
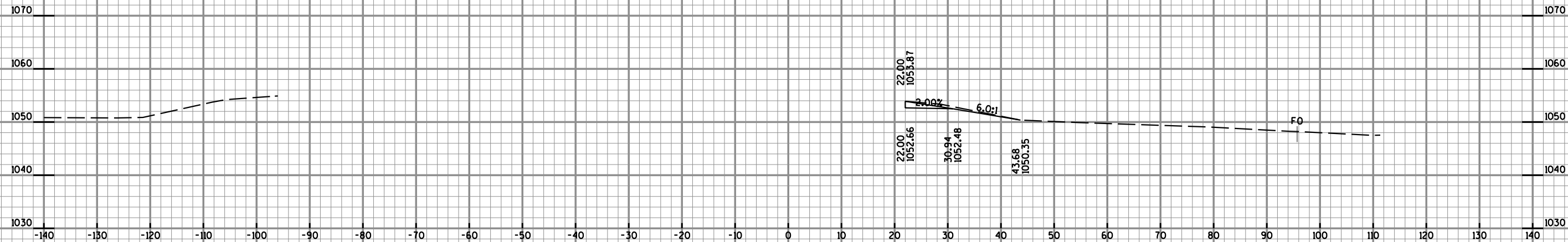
SHEET

144

E



STA. 705+75 TO 706+25



705+75

10 FT

10 FT

PROJECT NO: 1020-01-83

HWY: CTH J

COUNTY: ST. CROIX

CROSS SECTIONS - IH 94 EB

SHEET

146

E

FILE NAME : U:\42-0886.00 - St. Croix Co, I94 Overpasses x3\42-0886.03 B-55-41 CTH J\InRoads\42088603_xs IH 94.dgn

PLOT DATE : 7/24/2015

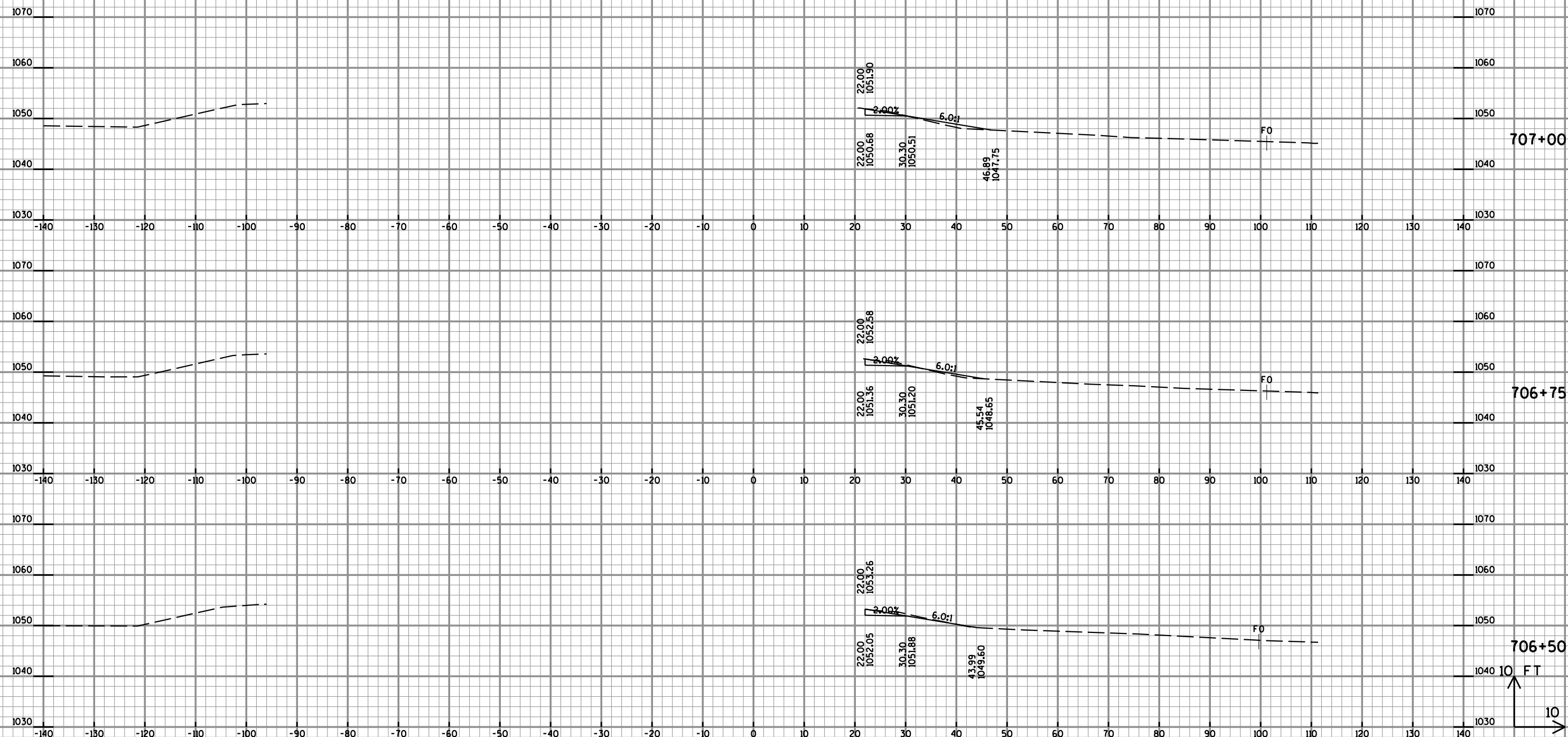
PLOT BY : AYRES-EC

PLOT NAME :

PLOT SCALE : 1:20

WISDOT/CADDs SHEET 21

STA. 706+50 TO 707+00



PROJECT NO: 1020-01-83

HWY: CTH J

COUNTY: ST. CROIX

CROSS SECTIONS - IH 94 EB

SHEET

147

E

FILE NAME : U:\42-0886.00 - St. Croix Co, I94 Overpasses x3\42-0886.03 B-55-41 CTH J\InRoads\42088603_xs IH 94.dgn

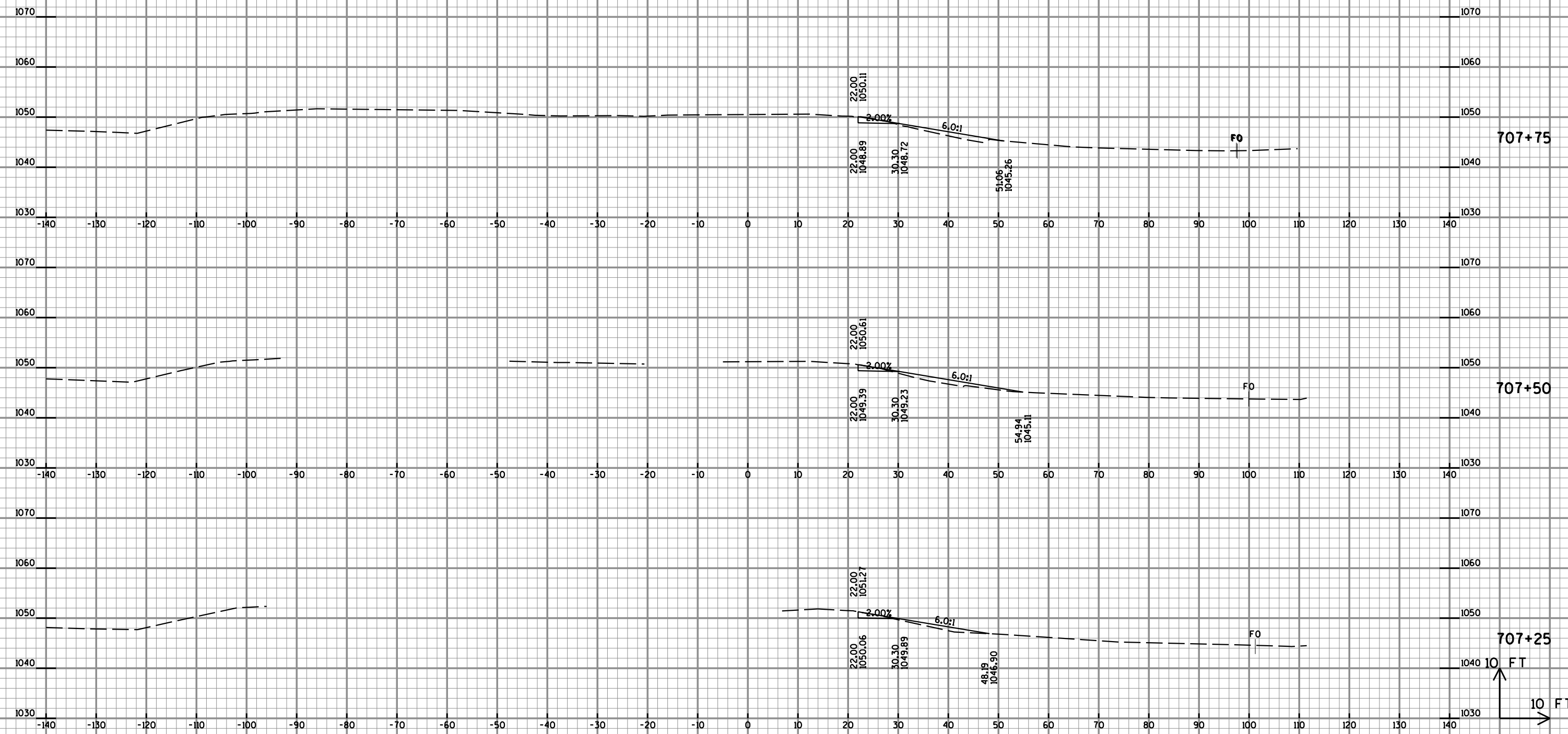
PLOT DATE : 7/24/2015

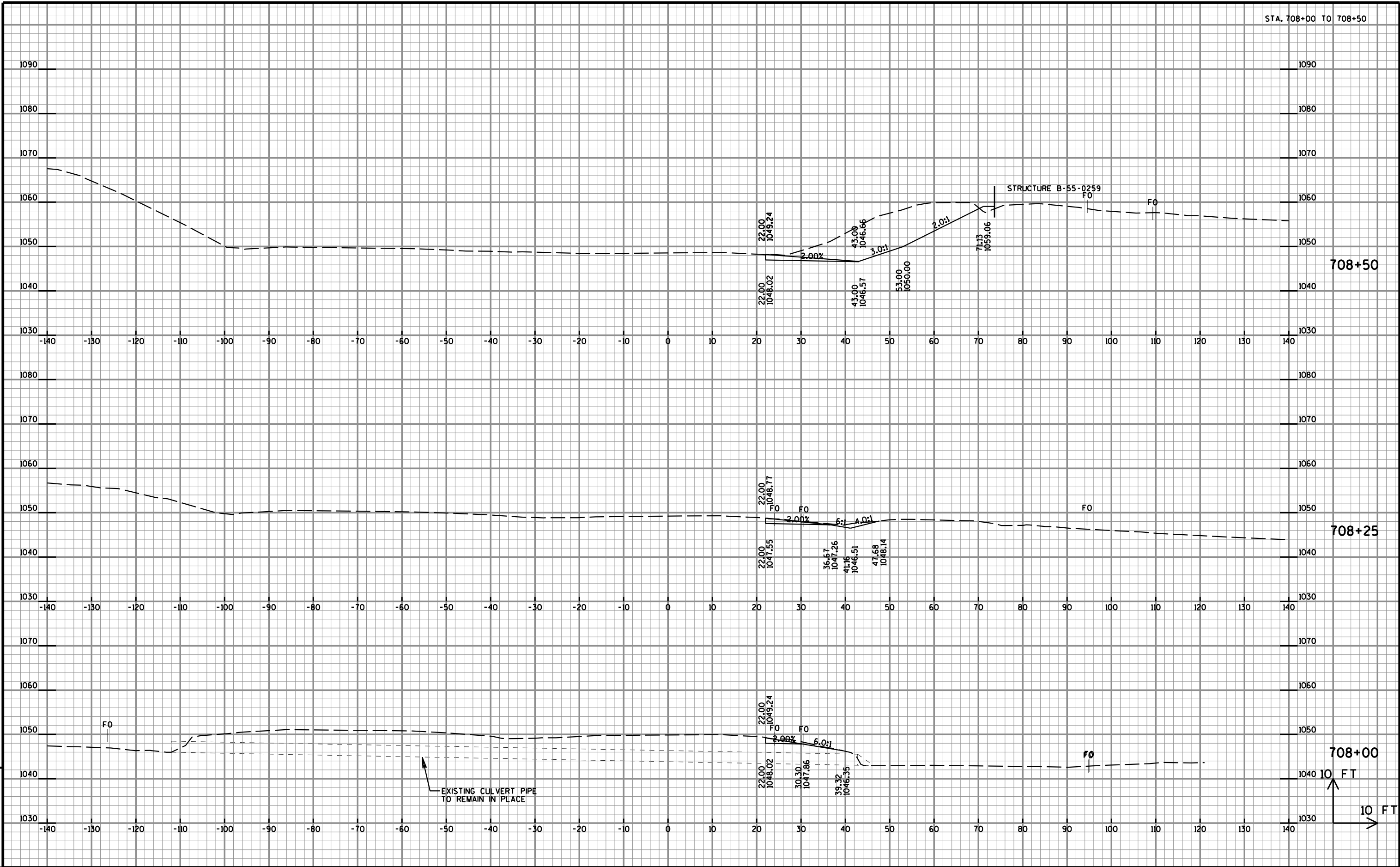
PLOT BY : AYRES-EC

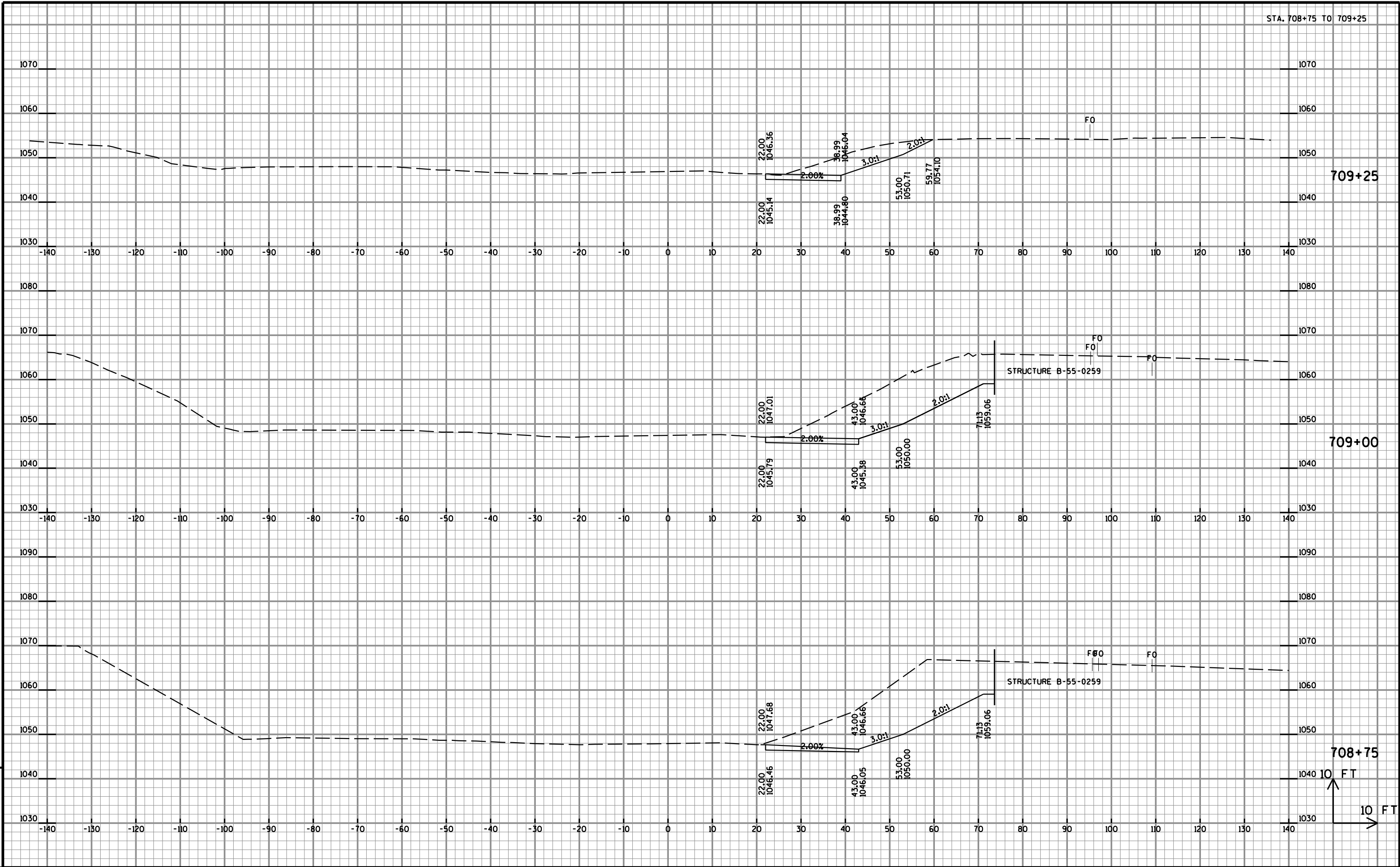
PLOT NAME :

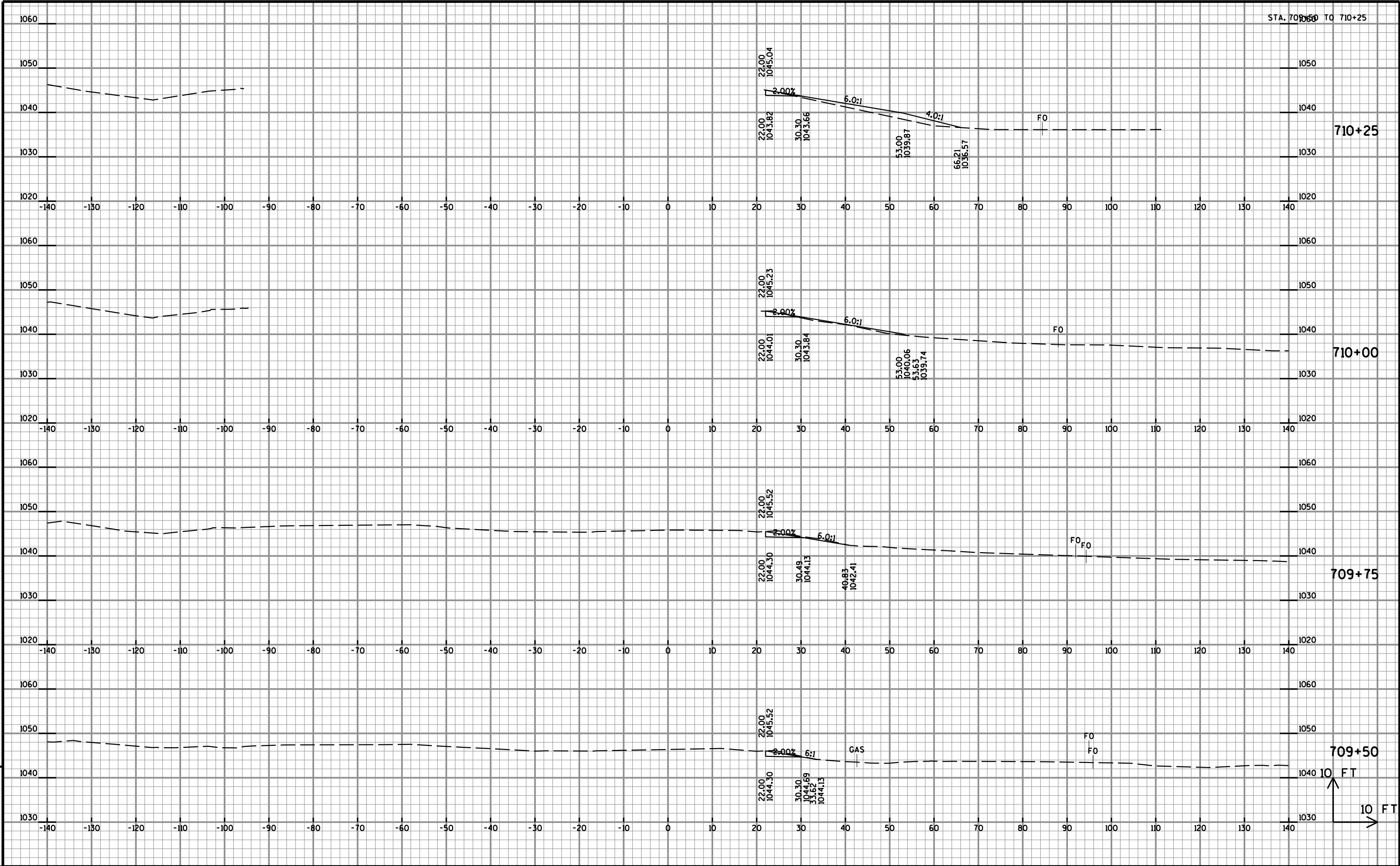
PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

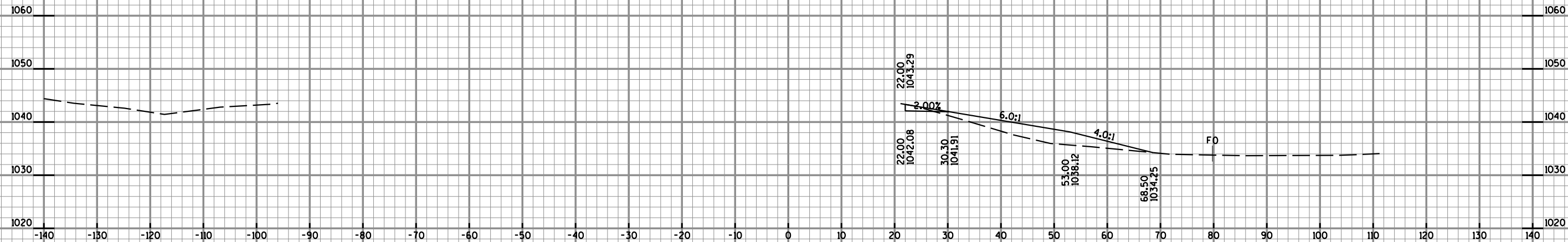




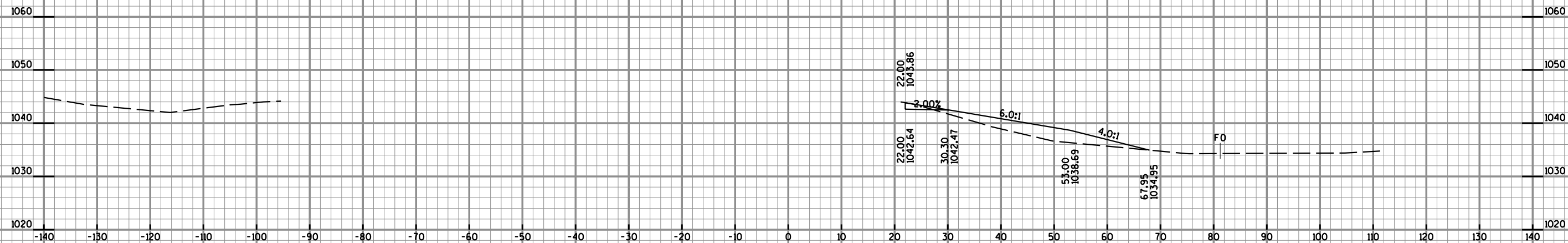




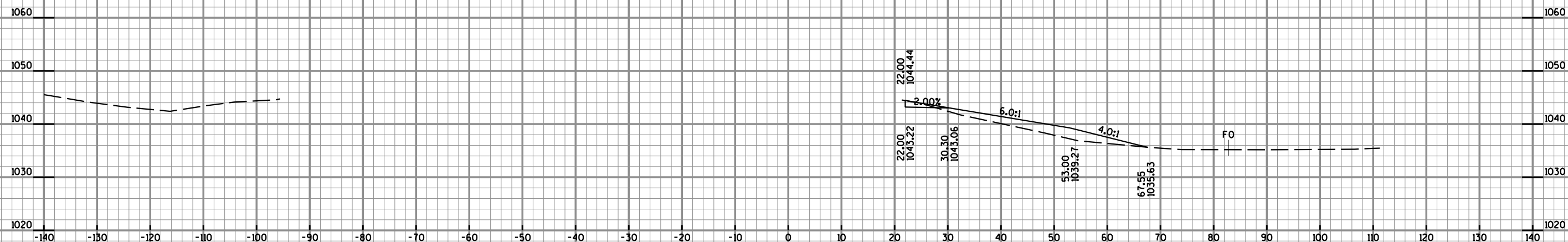
STA. 710+50 TO 711+00



711+00



710+75



710+50

10 FT
10 FT

PROJECT NO: 1020-01-83

HWY: CTH J

COUNTY: ST. CROIX

CROSS SECTIONS - IH 94 EB

SHEET

152

E

FILE NAME : U:\42-0886.00 - St. Croix Co, I94 Overpasses x3\42-0886.03 B-55-41 CTH J\InRoads\42088603_xs IH 94.dgn

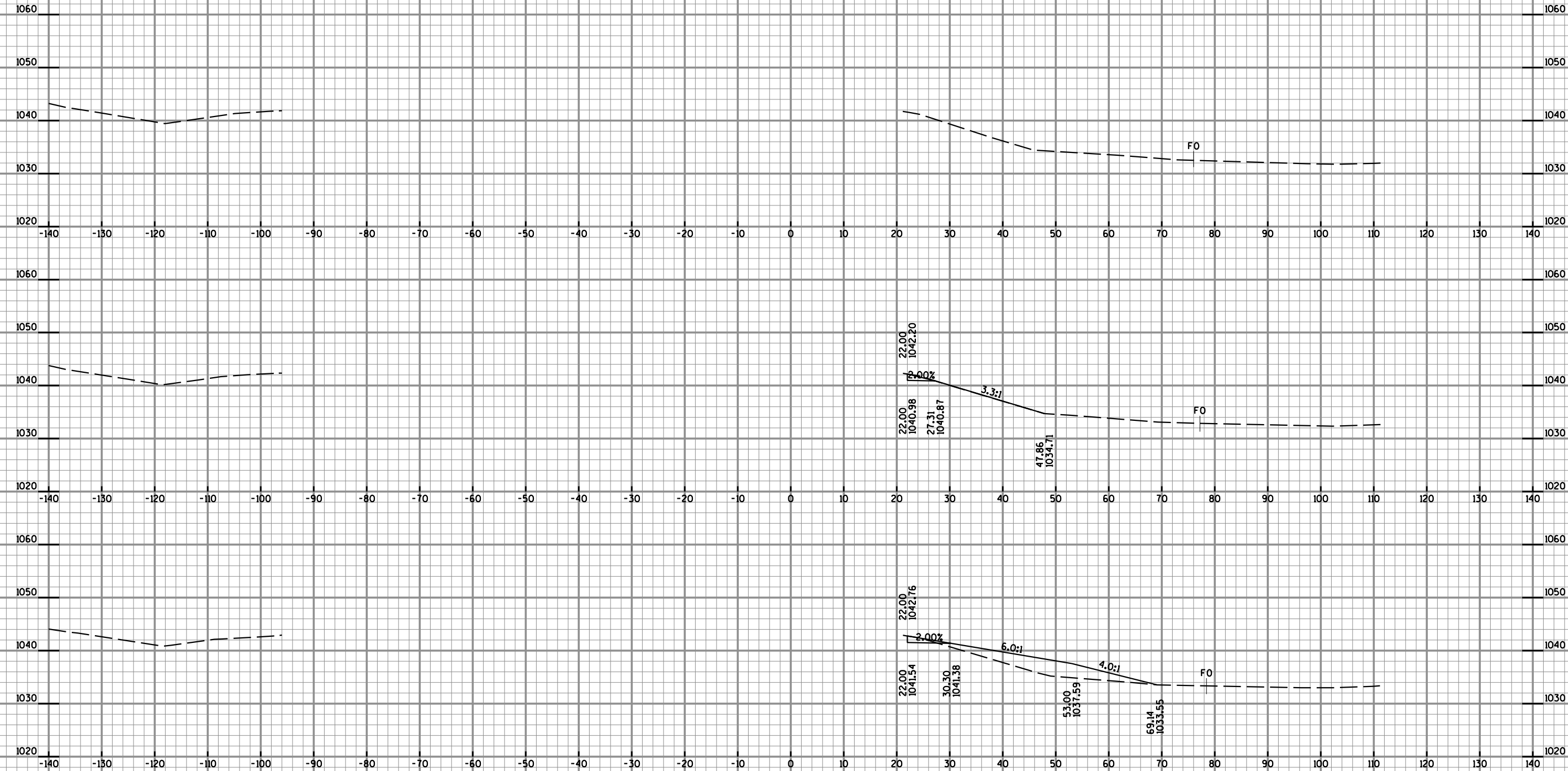
PLOT DATE : 7/24/2015

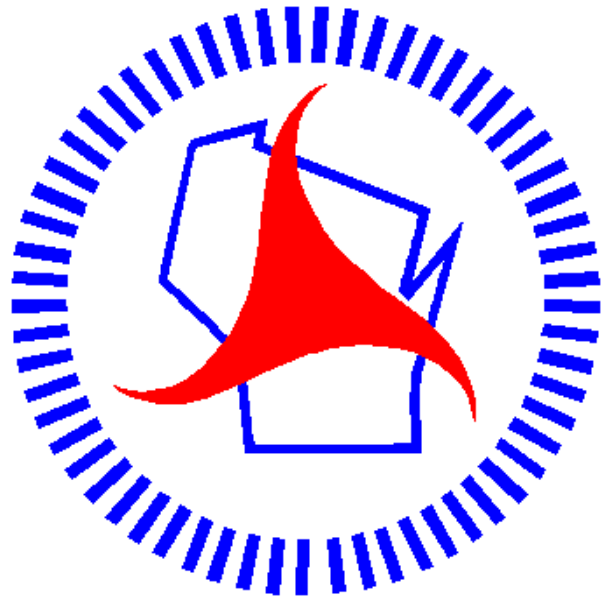
PLOT BY : AYRES-EC

PLOT NAME :

PLOT SCALE : 1:20

WISDOT/CADDs SHEET 21





Wisconsin Department of Transportation

Dedicated people creating transportation solutions through innovation and exceptional service.

<http://www.dot.wisconsin.gov>